

**EVALUATING THE IGALA TRADITIONAL ARCHITECTURE FROM  
1800 - 2017**

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**EVALUATING THE IGALA TRADITIONAL ARCHITECTURE FROM  
1800 - 2017**

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## **DECLARATION**

I, EMUSA Henry, a postgraduate student of the Department of Architecture in the University of Nigeria, Enugu Campus, with Registration No. PG/PhD/14/76404, do hereby declare, on my honour, that this thesis has not been previously presented, either wholly or in part for the award of any other degree, diploma, certificate or publication in any University, other Higher Institution or elsewhere.

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### **APPROVAL/CERTIFICATION**

EMUSA Henry, a postgraduate student of the Department of Architecture in the University of Nigeria, Enugu Campus with Registration No. PG/PhD/14/76404 has satisfactorily completed the requirements for the award of Doctor of Philosophy in Architecture. To the best of our knowledge, the work embodied in this thesis is original, and has not been submitted in part or in whole for the award of any other Degree, Diploma, Certificate or Publication of this University or elsewhere. However, the author bears full responsibility for the contents of this work.

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## **DEDICATION**

To the memory of my supervisor Dr. E.O. Nduka who passed away about 72 hours after he appended his signature to this work for internal examination.

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## ABSTRACT

The growing need to preserve and propagate indigenous architecture has continued to engage the research attention of architects and other environmentalists. Consequently, the key features and aspects of the Hausa, Igbo, Yoruba and Benin traditional architecture that can be preserved and incorporated into contemporary architecture in Nigeria are well understood. However, the intrinsic features and values of the Igala traditional architecture of Kogi State, Nigeria, have not been thoroughly investigated, identified and documented. As a result, not much is known of the aspects that are preserved and can be incorporated into contemporary architecture in Nigeria. The aim of this study was to evaluate the Igala traditional architecture between 1800 and 2017 with the view to identifying aspects that are valuable to contemporary architecture in Nigeria. The study was based on a combination of historical and survey research designs and involved physical observations, documentary analysis and administration of questionnaire to 840 residents of traditional compounds in nine Local Government Areas of Kogi State where the Igala people are found. The data were analysed using thematic content and descriptive analyses. The study revealed that due to the strong influence of culture, the main intrinsic features of the Igala traditional architecture are courtyards with impluvium, hierarchy of space, shrine, play areas for children, segregation of spaces for male and female occupants and storages for farm products. The values associated with these features are security, privacy, communal living, cultural identity, energy efficiency, water conservation and the use of sustainable materials. The study also indicated that the Igala traditional architecture has undergone transformation from circular curvilinear to rectilinear and single unit house forms in the colonial, post-colonial and contemporary times, the use of earth-based local building materials to imported and manufactured materials and a change from having communal spaces to individualist spaces. This transformation, which was observed to be threatening the survival of the Igala traditional architecture, is linked to European influences, social and economic factors. This study concludes that to ensure that architecture contributes to sustainable development goals (SDGs), those features of the Igala traditional architecture that promote security, privacy, communal living, and energy and water conservation as well as environmental protection should be preserved and incorporated into contemporary architecture in Nigeria.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Since the evolution of architecture in the late Stone Age when man started building huts and houses with mud and grasses, the architecture of a people has always embodied their culture, tradition and value system. As Okoye and Ukanwa (2019) rightly observed, architecture of a people is a product of the physical and cultural factors which are peculiar to the people. This view is consistent with the earlier submission by McLennen (2006) that architecture being the most obvious physical artefacts of a people draws from and responds to the uniqueness of place. This explain why the architecture of a place is usually identified with it; hence we have for examples; Chinese architecture, the American, the early Egyptian, the Greek, the Roman architecture among others.

Today, what is associated with architecture in Nigeria is a collection of imported forms, motifs, models and materials that have little or no links to the cultural heritage of the people. This agrees with the view by Okere (1996) that Africa today is a living confluence of cultural rivers, the major rivers being, on the one hand, the traditional culture with its tributaries of religion, social structure, language, values and world view, and on the other hand, the Western culture - including Christianity and Islam- with its own tributaries". Hence, Nigerian identity is in crisis as the authentic cultures and traditions are fast disappearing. Umar, Yusuf, Ahmed and Usman (2019) had observed that the current desire for foreign taste, in terms of building form, aesthetics, elevations, and materials has come with its neglect in the use of

local building concept; and thus leading to the extinction of traditional architecture and the associated values.

Traditional architecture is referred to as the architectural style that has been handed over from one generation to another or the architectural style that has come to be accepted and practiced by a group of people (Rikko & Gwatau, 2011; Okoye & Ukanwa, 2019). Research has shown that the traditional architecture of the various ethnic groups in Nigeria have unique features and values that can be incorporated into contemporary architecture to enhance the quality of the built environment (Ilesanmi & Egbe, 2013; Adedokun, 2014; Okoye & Ukanwa, 2019; Adenaike, Opoko & Oladunjoye, 2020). Hence research on traditional architecture are important in revealing how traditional building forms, concepts, materials and techniques have been employed to adapt to the changing environmental conditions at any given time and at the same time preserves the cultural heritage and identity of the people. This agrees with the submission by Uchegbu (2007) that every piece of architectural work has a lot to say about the time and culture that gave rise to it and as such should be preserved.

Arguably, the total abandonment of traditional building design strategies and concept has come with adverse environmental and economic challenges, especially in urban areas (Ezezue & Diogu 2016; Dayaratne 2018). In fact, Odum (2013) opined that most people in developing countries admire and embrace new alien ideas, materials and technologies, and indeed have developed unprecedented preference and excessive reliance on them, due to the incursion of foreign influences. There is copious evidence in the literature indicating that the traditional architecture of other ethnic groups in Nigeria have experienced some forms of transformations that are threatening their survival (See Ekhaese et al., 2015; Okoye & Ukanwa, 2019; Umar

*et al.*, 2019). To change this narrative, several authors (Rikko & Gwatau, 2011; Ekhaese, Taiwo, Izobo-Martins & Adewale, 2015; Okoye & Ukanwa, 2019) have advocated for the re-invention of traditional architecture in Nigeria as a way to mitigating some of these challenges. The study by Agbo (2018) has shown that some African countries such as Mali, Sudan, Niger Republic and parts of Northern Nigeria have done better in the preservation and propagation of indigenous architecture.

The Igala, like most ethnic groups in Nigeria are believed to have a rich and unique traditional architecture that has transformed significantly into contemporary architectural style as a result of several external and internal influences. As a result, the Igala people can be considered as gradually losing touch with their architectural identity as the imperatives and peculiarities that formed their traditional architecture are gradually being eroded. The evidence in the literature shows that some efforts have been made in the past to document the features and values of the traditional architecture of major ethnic groups such as Hausa, Yoruba, Igbo (See Domowchosky, 1990) and other minor ones such as Efik (Mbina, 2013), and Benin (Ekhaese, Taiwo, Izobo-Martins & Adewale, 2015) to mention these few. Like the traditional architecture of most ethnic groups on the African continent, the Igala traditional architecture can be traced back to thousands of years before the year 1800, and has witnessed some transformation. These notwithstanding, to the best of the knowledge of the researcher, there has been no conscious effort to identify and document the Igala traditional architectural features and values and the changes that have taken place over the years.

In line with the submission by Chukwuali (2005:17) that any ethnic group that makes no deliberate and conscious effort to retain and preserve their cultural and



architectural identities get easily assimilated by other more vibrant and dominant cultures, this study argues that the Igala people have a unique and peculiar architectural identity, but if not properly investigated, documented, preserved and incorporated into contemporary architecture, it is likely to go into extinction. For this reason, this study sought to investigate the unique features and values of the Igala traditional architecture so as to identify ways they can be preserved and applied in contemporary Nigeria architecture.

## **1.2 Statement of the Research Problem**

The review of literature reveals that understanding the intrinsic features and values of traditional or vernacular architecture has continued to attract the attention of scholars and researchers in architecture, especially, in the sub-Saharan Africa where colonial influence and modernisation have contribution to traditional architecture going into extinction. In Nigeria, Rikko and Gwatau (2011) observed that the country's architecture comprises the traditional architecture of the Hausa, Yoruba, Igbo, Benin, Tiv, Igala, the Tarok, Berom, Nga, Kutep and Bajju people among others, and that the multiplicity of architectural styles is as a result of differences in culture, religion, climate, urbanization, and professionalism.

The available literature on Nigeria traditional architecture also shows that some research works have been carried out to examine several issues associated with the architecture of the Hausa, Igbo, Yoruba, Benin Tiv, Efik/Ibibio speaking people of Nigeria. For example, Domowchosky (1990) documented the key features of traditional architecture of the Hausa, Igbo and Yoruba speaking people in the north, southeast and southwest, respectively. Specifically, the recent review by Adenaike, Opoko and Oladunjoye (2020) reveals that extensive research has been carried out on the features and values of Yoruba traditional buildings and spatial organisation

patterns as well as construction materials. Okoye and Ukanwa (2019) examined the Igbo traditional building materials and form, and settlement patterns, while Umar (2017) and Umar, Yusuf, Ahmed and Usman (2019) investigated the practice of Hausa traditional architecture and transformation in Hausa traditional Architecture, respectively. In the south-south Nigeria, Edem and Okonkwo (2010) investigated the culture and architecture of the Ibibio people of Akwa Ibom State; Mbina (2013) studied the traditional house form of Efik speaking people in Old Calabar, while Ahianba (2013) examined the culture, settlement pattern and traditional/vernacular architecture of the Esan people of Edo State. In addition, Ekhaese, Taiwo, Izobo-Martins and Adewale (2015) dwelt on issues related to Benin architecture, including its evolution from pre-colonial to contemporary time.

From the findings of these studies cited here, the key features, values and building materials and techniques associated with the traditional architecture of the different ethnic groups in Nigeria are well understood. These studies also provide insight into the nature of transformations that have taken place in these different architectural styles and the factors that influenced these transformations as well as ways for promoting the practice of these traditional architectural styles in contemporary time. It is however observed that none of these studies was focused on the Igala traditional architecture, one of those traditional architectural styles identified in the middle belt of Nigeria by Rikko and Gwatau (2011). Although these authors had noted that the architectural styles of the various ethnic groups in the middle belt of Nigeria seems to have common features in their curvilinear housing forms but noticeable differences in their housing pattern specifically in compound setting and techniques of construction exist. This suggests that in-depth research is required to understand the peculiarities of the architecture of each of these ethnic groups. This is particularly

important for the Igala traditional architecture, as views and discussions on this are sparse and are based on speculations and devoid of any empirical backings.

Notably, the paucity of empirical studies on the Igala traditional architecture has resulted to a lack of understanding of the unique features and values of the traditional architecture of the Igala people of Kogi State, north central Nigeria and aspects that can be integrated into the contemporary architectural practice. Moreover, the submission by Umar *et al.* (2019) that the current desire for foreign taste, in terms of building form, aesthetics, elevations, and materials has come with its neglect in the use of local building concept and materials and adverse socio-economic and environmental implications, calls for more research into traditional architecture, which according to Okoye and Ukanwa (2019), adheres to the basic principles of green architecture principles and utilization of local materials and resources. In view of the foregoing, this research was conducted to bridge the exiting knowledge gap by improving understanding of the uniqueness and functional values of the Igala traditional architecture and the transformations it has undergone from 1800 and 2017.

### **1.3 Aim of the Study**

The aim of the study was to identify, document and evaluate the unique features and values of Igala traditional architecture with the view to identify how to encourage their preservation and integration into contemporary architecture in Nigeria.

### **1.4 Objectives of the Study**

To achieve the set aim, the study objectives include to;

1. identify, document and describe the intrinsic features of the Igala traditional architecture;

2. examine the values that can be derived from the Igala traditional architecture;
3. determine the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017;
4. examine the factors responsible for the transformation in the Igala traditional architecture in the period under review.

### **1.5 Research Questions**

To guide the research, the following questions were asked;

1. What are the identifiable intrinsic features of the Igala traditional Architecture?
2. What are the values that can be derived from the Igala traditional Architecture?
3. What is the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017?
4. What are the factors responsible for the transformation of the Igala traditional Architecture in the period under review?

### **1.6 Scope of the Study**

The scope of the study is limited to the identification, documentation and description of the intrinsic features and values of the Igala traditional architecture, the nature of transformation in Igala traditional architecture and the factors that have influenced its transformation between 1800 and 2017.

### **1.7 Significance of the Study**

This study sought to draw the attention of government at all levels, historians and other allied professionals to the need for proper documentation and preservation of the cultural and architectural identities of the various ethnic groups in Nigeria. The study will encourage Nigerian contemporary architects and town planners to adopt design/planning strategies that will sustain Nigeria's cultural heritage. The study will

form part of the effort in the establishment of acceptable Nigerian History of Architecture. It will encourage interest in the study and specialization in Nigerian traditional architecture in schools of architecture. Finally, it will form a valid academic material for further research on the subject.

## **1.8 Justification for the Study**

The research is justified due to the fact that unlike the traditional architecture of other major ethnic groups in Nigeria such as Hausa, Yoruba, Igbo, Efik, Tiv, Berom to mention a few that have been deeply explored, there is a paucity of chronological and empirical data on the available information on the Igala traditional architecture especially as previous studies have been speculative and devoid of any empirical backings.

There is the need to checkmate the gradual transformation and consequent extinction of the Igala traditional architecture, and the traditional architecture of other ethnic groups in Nigeria.

There is also the need to emphasize on the preservation of Nigeria's cultural heritage and the application of traditional architecture in contemporary Nigeria architecture.

## **1.9 The Study Area**

### **1.9.1 *Geographical Location of the Igala People***

The study area is Igala community in Kogi State, North Central Nigeria. Nigeria is a country in West Africa comprised of thirty-six (36) states with Abuja as her capital (See Fig. 1.1). The home of the Igala people is situated east of the River Niger and Benue confluence and astride the Niger in Lokoja, Kogi State of Nigeria. The area is

approximately between latitude 6°30 and 8°40 north and longitude 6°30 and 7°40 east and covers an area of about 13,665 square kilometres (Oguagha, 1981).

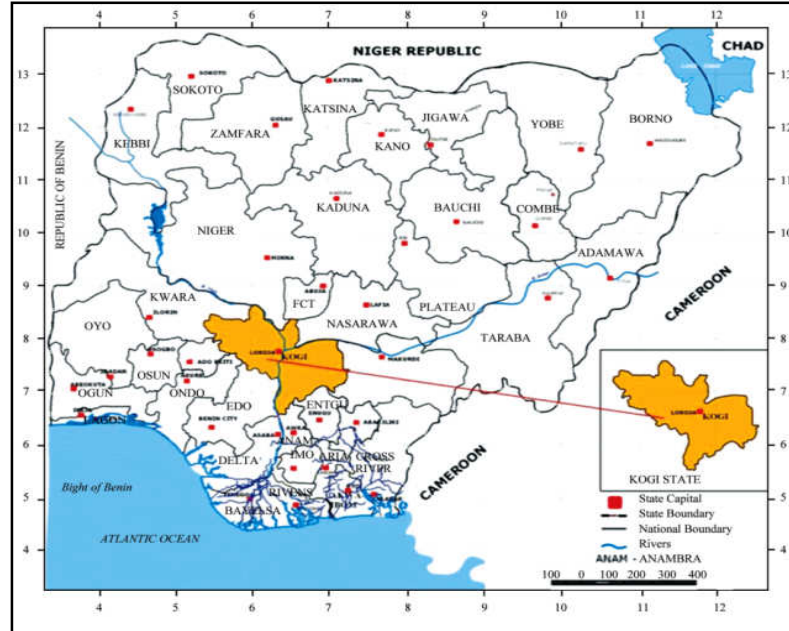


Fig 1.1: Map of Nigeria Showing the Location of Kogi State.  
Source: Kogi State Ministry of Land and Environment (2008).

The Igalas occupy nine Local Government Areas out of the twenty-one Local Government Areas of Kogi State (See Fig. 1.2). The Local Government Areas occupied by the Igalas include; Ibaji, Idah, Igalamela-Odolu, Ofu, Dekina, Ankpa, Omala, Olamaboro and Bassa Local Government Areas (See Figures 1.3 and 1.4) (Egbunu, 2001).

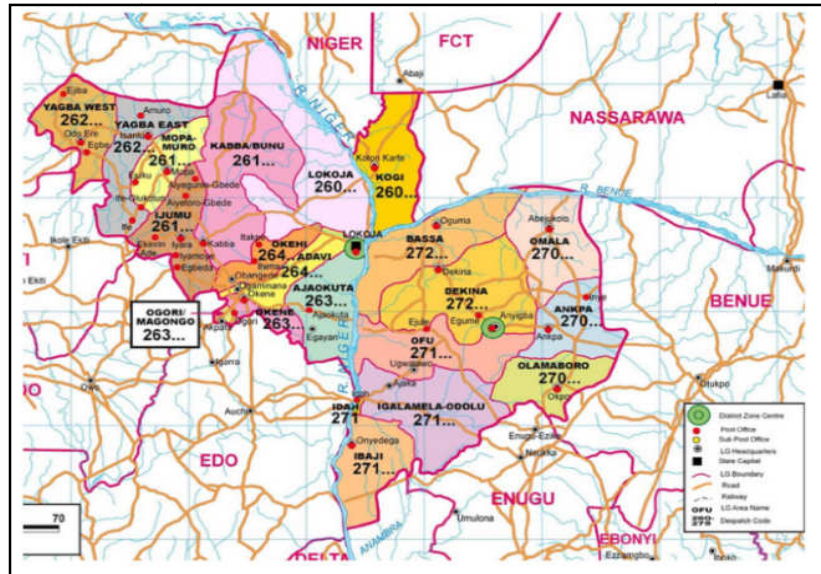


Fig 1.2: Map of Kogi State Showing Local Government Areas.  
Source: Kogi State Ministry of Land and Environment (2008).



Fig 1.3: Map of Kogi State Showing Igala Local Government Areas.  
Source: Kogi State Ministry of Land and Environment (2008).

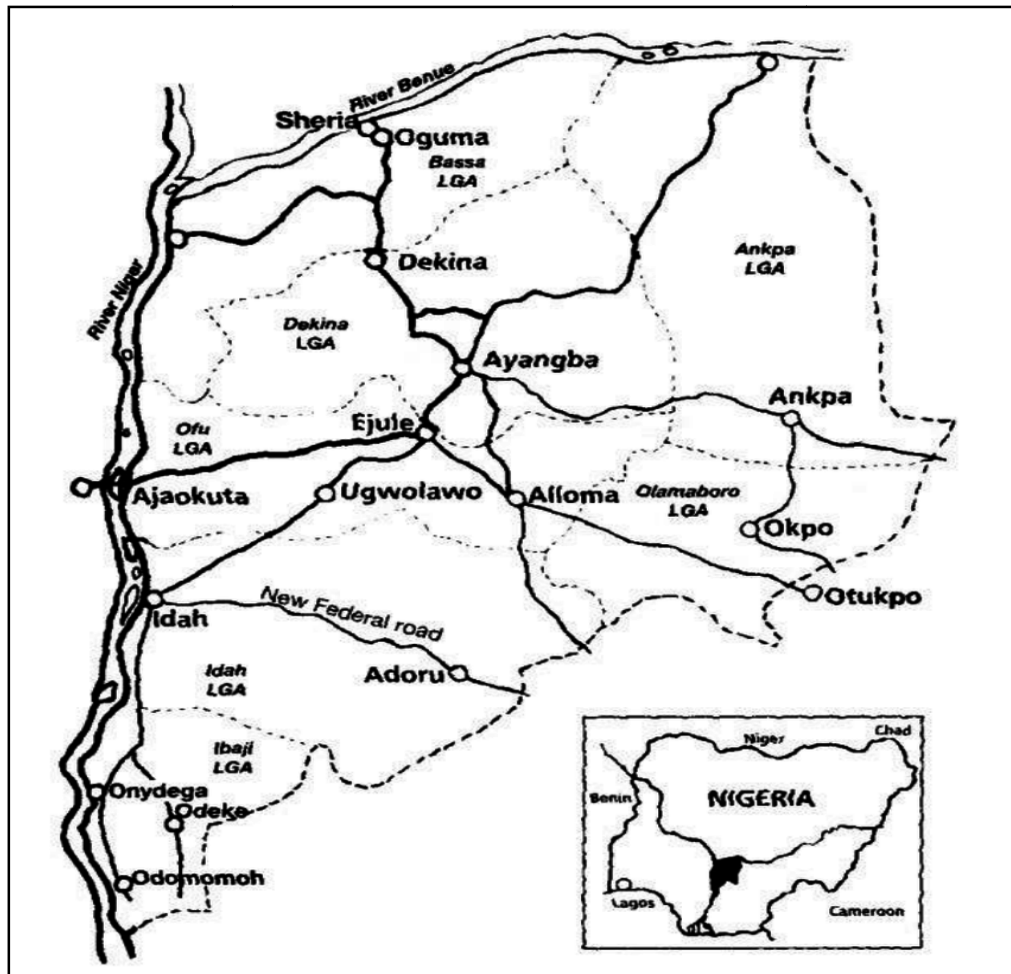


Figure 1.4: Map of Igala Land.  
Source: Kogi State Ministry of Land and Environment (2008).

### 1.9.2 Land Mass, Population and Language

The Igala population is estimated at one million, five hundred thousand (1.5 million) according to the 2006 National Population Census, of which over 70% are subsistence farmers. The traditional Igala society is largely agrarian, although fishing is also a mainstay of the people especially the Igalas of the river shore town of Idah (Egbunu, 2001).

Igala people are evenly distributed all over the land but with Idah, Anyigba and Ankpa most densely populated. Igala people are also found in Benue, Enugu, Anambra, Delta and Edo States. The boundary of Igala land was by far larger than it



is today. The traditional limits of the land included the greater part of Idoma land, Nsukka area and Anambra area (North of Onitsha). The Attah of Igala formerly exercised sovereignty over them (Adejoh, 2012).

Igala people speak Igala language, which belongs to the Yoruboid languages spoken in North Central Nigeria and also forms part of the larger West Benue-Congo phylum (formerly part of Kwa) (Akinkugbe, 1976). As a result of the strong linguistic affinities, Akinkugbe (1976) further classified Yoruba, Itsekiri and Igala as belonging to what he calls the Proto-Yoruboid sub-group in the main Kwa group.

### **1.9.3 *Climate and Vegetation***

Igala land has an unusually and richly endowed environment. The land is within the “Middle Belt” of Nigeria which has an advantage of the savannah vegetation to the north and the wet forest regions to the south. The area lies within the warm climate zone of the country. There is a distinctive wet season dichotomy. The wet season lasts from about April to the end of September or early October (See Figures 1.5 and 1.6) while the dry season lasts from about October to about the end of March or early April. Rainfall can be heavy and the effects of the harmattan can be severe, especially from about November (See Fig. 1.7). The area has an average rainfall of about 50” a year. The lowland river areas are flooded seasonally, making it possible for the growing of paddy rice and controlled fish farming in ponds that are owned on individual or clan basis. The Ibaji area is the major place washed by flood. This makes the area very fertile more than other places in the land. This fact plays an important role in the economic and social lives of the people (Egbunu, 2001).

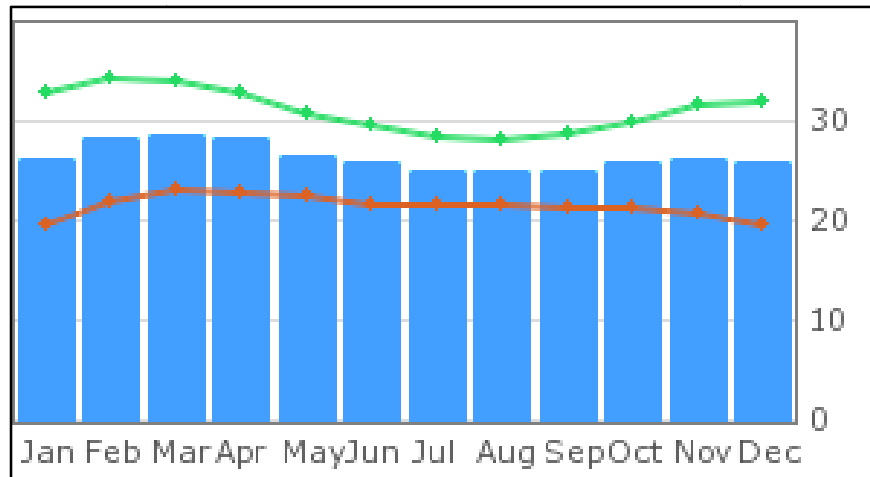


Figure 1.5: Temperature Chart of Igala Land.  
Source: Kogi State Ministry of Land and Environment (2008).

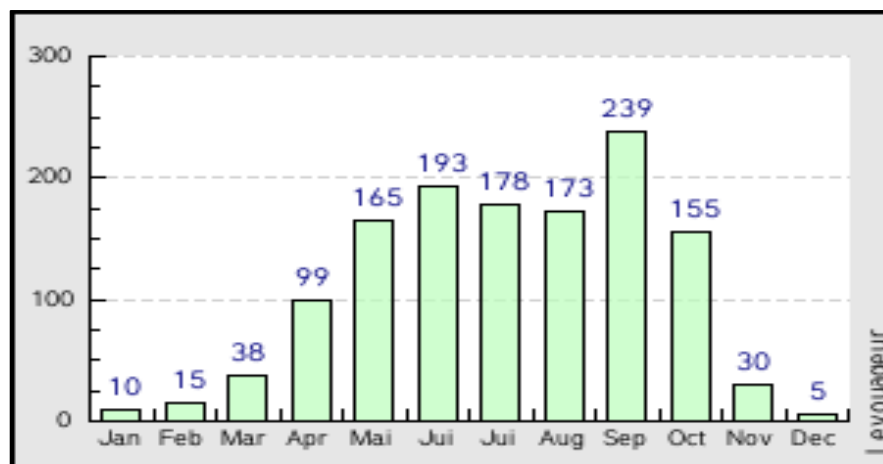


Fig 1.6: Rainfall Chart of Igala Land.  
Source: Kogi State Ministry of Land and Environment (2008).

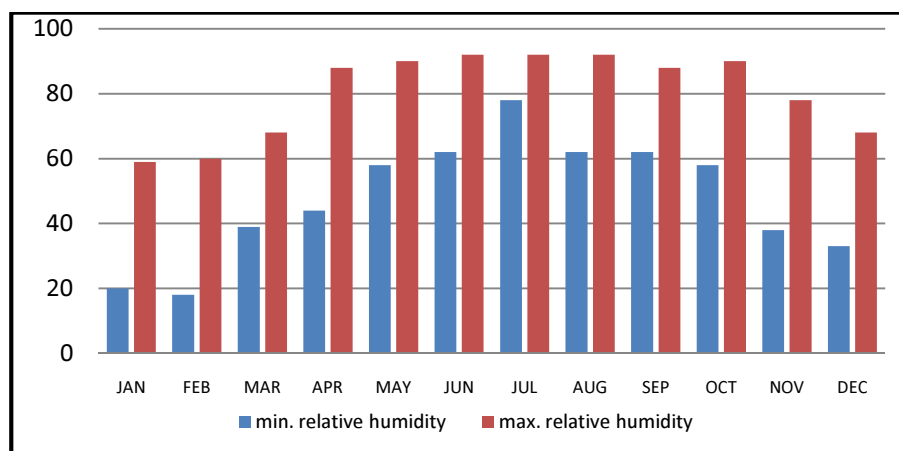


Fig 1.7: Humidity Chart of Igala Land.  
Source: Kogi State Ministry of Land and Environment (2008).

The vegetation is mainly deciduous, the major rivers are Rivers Benue and Niger, a few minor ones include; *Okula, Ofu, Imabqlq, Ubele, Adale, Ogbagana* and many streams in the land. Hence, Igala land is known as a blessed fishing and arable region (Egbunu 2001).

#### **1.9.4 Economy, Trees and Crops**

During the 19th century, Idah was a thriving port. It was known for trading palm oil, kernels and rubber to Europeans. The Igalas also traded staple crops, cotton, woven cloth, livestock, pots and knives to the Igbo people to the south. The Igalas were able to maintain strict control over the lower Niger trade which was north of Idah (no Igbo boats were allowed above the port). This was partially because just south of the town, the Niger valley emerges from a narrow and rocky section to some wide extensive flood plains. Modern Idah remains a major trading centre for palm produce, yams, cassava (manioc), rice and fish. Besides trading, the local population is engaged in making canoes and fishing nets. Handcrafts and cotton weaving are also significant (Egbunu, 2001).

The most common trees are; palm trees (*ekpe*), locust beans (*okpehie*), mahogany (*agq*), iroko (*uloko*), white wood (*uwewew*) and raffia palms (*ugala*). Common plantations include; okra (*qrq-aikpeli*), cashew (*agala*) and banana (*qged*). Some of the economic trees mentioned here provide timber for the people (Egbunu, 2001).

#### **1.9.5 Agriculture and Wild Animals**

Over 70% of the Igala population practice farming. Both forest and savannah crops thrive on Igala soil. Thus, the main forest crops produced are; yams, cassava, maize, melon and groundnut. Others include such savannah cereals as guinea corn, beans and millet (Egbunu, 2001). Certain wild animals have been found in the forest

regions of Igala land, such as lions (*idu*), hyenas (*olinya*), leopards (*omataina* or *ẹjẹ*), elephants (*adagba*), bush pigs (*ehi*), chimpanzee (*ukabu*) to mention a few (Egbunu, 2001).

#### **1.9.6 *Natural Resources and Accessibility***

Igala land is blessed with rich natural resources. In the southern region are swamps where crude oil was prospected some years ago. It is generally believed that oil was discovered at Alade and Odolu. The Okaba (*Adagio*) coalmine is close to Ankpa in the north. The country has benefitted from the coalmine since 1967 (Egbunu, 2001).

There are many roads in the area. The main ones are Anyigba-Idah, Anyigba-Ankpa, Anyigba-Shintaku. Those of Anyigba-Ajaokuta, Ankpa-Otukpo, Otukpa, Ankpa-Ogobia, Idah-Nsukka and Ejule-Otukpa link the land to neighbouring states. Good waterways are possible between Idah-Agenebode-Onitsha and the Shintaku-Lokoja axis of River Niger. These waterways have served as veritable means of transport in the recent past. It encouraged social and economic interactions (Egbunu, 2001).

## **CHAPTER TWO**

### **LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

#### **2.0 Preamble**

It is the citizen of a country who should write its history, because it takes an indigenous historian to glimpse the historical past of his people and to express it in a language that his people will appreciate and in a manner that will create deeper understanding and a sense of identity with the cultural heritage of his people (Fafunwa, 1974). This opinion is consistent with the view of the author and a motivation to carry out this study. This study will review literature on the African and Nigerian traditional architecture, the traditional architecture of various ethnic groups in Nigeria and the Igala traditional architecture for a deep understanding of characteristic similarities and differences, past and present situations, towards evaluating the Igala traditional architecture.

#### **2.1 African Traditional Architecture**

The African Traditional Architecture dates back to early times, sometimes referred to as vernacular architecture, it demonstrates how architecture is designed to respond to societal needs. At the same time, it is one of the oldest and richest traditions the world ever had, almost the only one that still survives from the dawn of human history. It works on traditional village scale, rather than global architectural styles. Prussin (1974) stated that African representative model and concepts chosen from various parts of Africa may lead one to a unique concept of African style.

The African traditional architecture has been described as a direct evocation of its physical environment. It is extremely stylish, not from abstract aesthetic notion, but from the basic needs and images of the building it has to serve, to the same degree.

Despite the fact that the continent boasts diversity in climatic condition, regions, peoples, and traditions, these differences are accommodated in its architecture. The available building materials also vary from mud and thatch to stone. They change design based on the particular region, like the way American architecture and other parts of world change regionally.

The Sub-Saharan Africa produced target scale of works, but on the whole, do not have architects in traditional African building. Instead, it is the intelligence of the master builder who combines a certain function as one is impressed to love all by the symbolic imagery of traditional African building. However, using mud may have certain technical disadvantages but it is probably the most expensive of all materials. In maintenance cost, it does not only lend itself brilliantly to cornice decoration, but the very shapes of the buildings express their function and ideology marked by anthropomorphism. The house not only housed its owner, it expresses his or her stage or status in life, and is closed down at his or her breath eagle (Wood, 1996).

The architecture is adapted to suit the needs of the group's houses, which erects the styles of the community and perfects over many generations. As a result, there are no evidences of trained architects and much of the information on building design and techniques are passed down to generation by oral instructions.

In addition, African architecture is defined by the religious and social order of the people.

This is evident in its temporary and perishable nature, which did not exist in any homogenous material culture or house throughout Africa. The building of houses in African communities where everyone gives his assistance and the only remuneration

is a feast, the sampling technology from the shape and method of construction to the ornament and decorations, used to distinguish roles in the industry (Umar, 2000).

## **2.2 Nigerian Traditional Architecture**

The Nigerian traditional architecture before the colonial period depended on the social, cultural and religious background of the identified ethnic groups, and some environmental factors such as landscape and vegetation (Nduka, 2013).

## **2.3 Traditional Nigerian Architectural Elements**

For proper investigation of the indigenous architecture of the Igala people, this study was able to identify basic areas of characteristic similarities and dissimilarities amongst the traditional Nigerian architecture representing four cultural zones – North (Hausa), South West (Yoruba), South-East (Igbo) and South-South (Edo or Bini) zones, as outlined in the following paragraphs.

### **2.3.1 Entrance Element**

Though the form, size and design may differ from one cultural group to another, there is always a defined separation of the external space from the internal space. For the Hausa, it is the ‘zaure’ (entrance/reception hall). For the Yoruba, Edo or Bini, veranda and the Igbo is the entrance gate (See Figures 2.1, 2.2, 2.3 and 2.4) (Nduka, 2013).

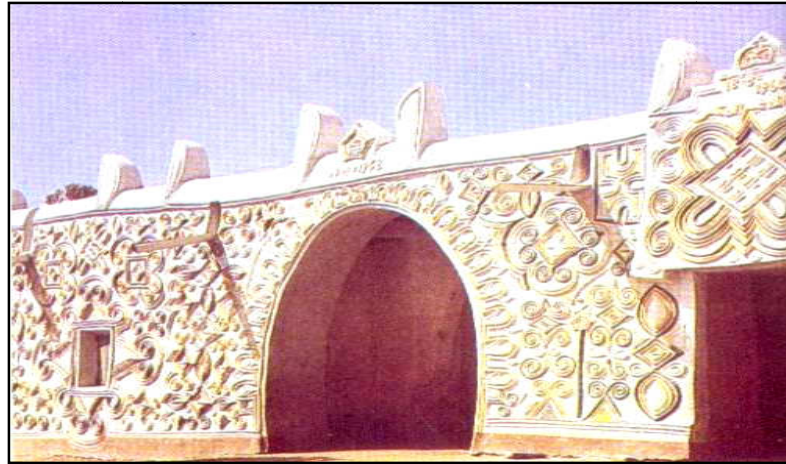


Fig 2.1: Emir of Zaria's Entrance Gate.

Source: [http://www.motherlandnigeria.com/./emir\\_entrance.jpg](http://www.motherlandnigeria.com/./emir_entrance.jpg), 2017.

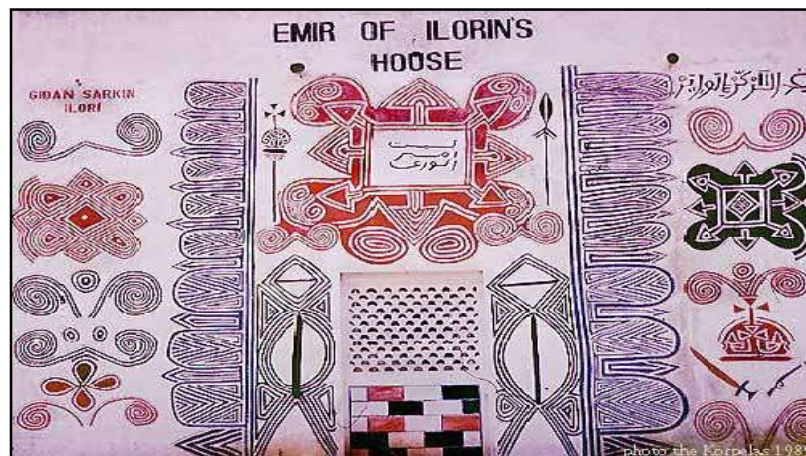


Fig 2.2: Emir of Ilorin's House.

Source: [http://www.motherlandnigeria.com/./emir\\_of\\_ilorin\\_house.jpg](http://www.motherlandnigeria.com/./emir_of_ilorin_house.jpg), 2017.



Fig 2.3: Entrance Gate into the Palace of HRH Chief J. N. Ofomata 'Obu of Nanka'.

Source: Nduka (2013).





Fig 2.4: Entrance Gate into the Palace of Obi Onyiuke Nimo both in Anambra State.  
Source: Nduka (2013).

### **2.3.2 Courtyard**

This is another traditional Nigerian architectural element common in all the zones. In the North, there are various courtyards, ‘kofar gida’ and ‘cikin gida’ (outer and inner courtyards). The first courtyard referred to as the outer courtyard is the semi-public space while the inner courtyard is an exclusive private space. As stated earlier, the outer courtyard ‘kofar gida’ defines the limit access to adult male visitors to the compound, while the inner courtyard ‘cikin gida’ is an exclusive private space for the women of the compound and their children (See Fig. 2.5) (Nduka, 2013).



The Edo or Bini has series of open courtyards serving various functions ranging from social and or political reception to religious and ritual ceremonies (See Fig. 2.7). The Igbo have open courtyards like the Bini for social and cultural activities (Nduka, 2013).

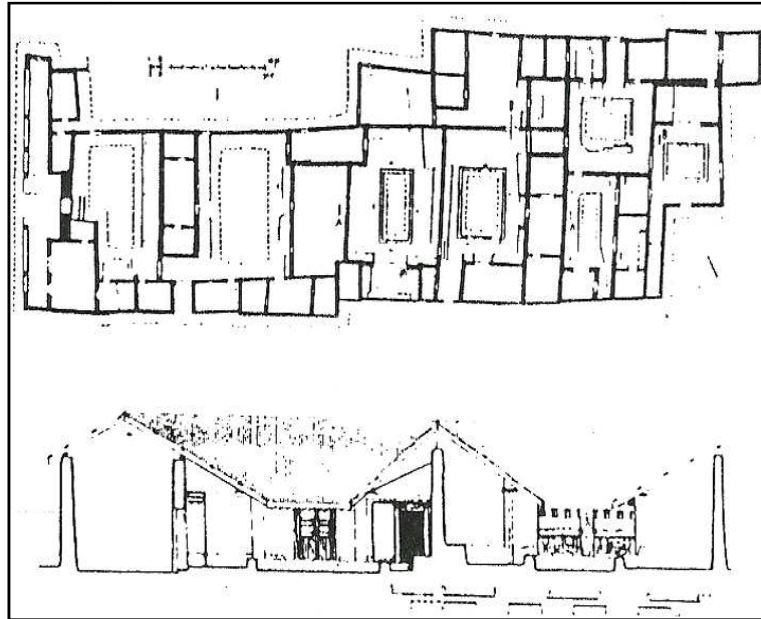


Fig 2.7: Top and Layout of Chief Elerewe's House; a Benin Chief's Residence Showing the Various Open Courtyards; Bottom, Section through the Residence Showing the Open Courtyards.  
Source: Dmochowski (1990).

### **2.3.3 Growth/Expansion Tendency**

The traditional Nigerian compound is expandable. This is identifiable in all the zones mentioned above. According to Sa'ad (1996), traditional Nigerian compound continues to behave like a living organism in its response to changes in the size and needs of the extended Nigerian family. This is a common feature to all Nigerian communities. For the Hausa in the North, new structures are either attached to the existing ones or built separately within the compound. For the Yoruba in the South West, growth is a complex aggregation of various houses, compounds and spaces of religious and political significance developed as the need arises or the family

increases. For the Edo or Bini in the South-South, growth is complex and elaborate, consisting of series of apartments surrounding numerous open courtyards, serving as living quarters for the household head, his extended family, court servants and slaves. While the Igbo (Ohafia) in the South East, new structures are attached to the existing ones thereby expanding horizontally along the perimeter of the compound (Nduka, 2013).

#### **2.3.4 *Space Organization***

Spaces are organized and designated for functions like the kitchen, bathroom, toilet and storage, living room or parlour and bedroom. They are often separate units and accessed through the courtyard. This is common feature in all the zones under discussion except for the Brazilian and Portuguese influenced Nigerian architecture where kitchen, toilets and storage spaces are integrated within the same building.

According to Sa'ad (1996), circulation spaces within traditional Nigerian compound tend to be less articulate. Spaces between buildings or routes leading directly from one building to another or from one door to another define the circulation. In a typical Yoruba, Edo and Igbo compound, verandas and passage-ways between rooms are the most common form of circulation spaces. Also among the Hausa of the savannah belt, narrow passage-ways between rooms and open paths within compound constitute the main circulation spaces (Nduka, 2013).

#### **2.3.5 *Construction Material***

Nigerian traditional architecture basically is constructed using traditionally available materials within the locality. Materials like earth in the form of clay, puddle mud or laterite and stone for the building walls and straw, thatch or mud for the roof are commonly seen in Nigerian traditional architecture. Therefore, no matter the form

these traditional local materials are turned into before use, their availability and use, cut across the various cultural zones of Nigeria (See Figures 2.8, 2.9, 2.10, 2.11, 2.12 and 2.13) (Nduka, 2013).



Fig 2.8: Obi Onyiuke Nimo Built with Red Stones and Mud, Built 1875 and Rebuilt 1903.

Sources: Sam-amobi (2009), Babatunde (2006).



Fig 2.9: Storey Building of HRH J. N. Ofomata Nanka, Storey Building Built with Local Red Stones, Mud, Timber Boards and Decorated with Cement.

Sources: Sam-amobi (2009), Babatunde (2006).





Fig 2.10: First Palace of Laroooye, Ataoja of Osogbo, Osun State, with Puddled Mud/Laterite, Thatch and Carved Timber Trunks.  
Sources: Sam-amobi (2009), Babatunde (2006).



Fig 2.11: Carved Timber Entrance Door to HRH Ofomata's Palace Gate and Wall Decoration on the Storey Building.  
Source: Sam-amobi (2009), Babatunde (2006).



Fig 2.12: Traditional Building from Sukru Kingdom, Adamawa State, Built with Stones, Mud/Laterite and Thatch.  
Source: Sam-amobi (2009), Babatunde (2006).



Fig 2.13: Wall Detail of the Storey Building of HRH J.N. Ofomata Nanka.  
Source: Sam-amobi (2009), Babatunde (2006).

The Traditional Nigerian architecture of the different zones also have differences in the following areas.

### **2.3.6 Storage Facility**

Storage facility for farm produce is varied in the zones under discussion. For example, in the North, grains are stored in a cylindrical earthen structure (granary) suspended on three earthen stands and roofed with thatch. This structure stands alone and is found within the traditional Hausa compound layout (See Fig. 2.14). In the Igbo traditional compound, no structure is built for the storage of grains, instead grains are sun dried and stored in clay pots which are kept in the kitchen ceiling. Sometimes, some grains (maize, wheat, beans) are tied with the stalk and hung over the fire place in the kitchen (Nduka, 2013).



Fig 2.14: Earthen Storage Facility (granary).

Source: [http://www.motherlandnigeria.com/./traditional\\_granery\\_in\\_north.jpg](http://www.motherlandnigeria.com/./traditional_granery_in_north.jpg), 2017.

### **2.3.7 Reception Lounge**

This space is predominant in traditional Igbo architecture unlike the Hausa, Yoruba and Edo architecture. It is normally located immediately after the entrance gate, separate from the main building and serves as a reception lounge (*obi* or *obu*) where visitors to the compound are first received. Some traditional ceremonies like marriage, ancestral worship/rituals and child dedication could take place there. But for the Hausa, there is no ‘Obi’ or ‘obu’ but ‘zaure’; the Yoruba and Edo; veranda (Nduka, 2013).

### **2.3.8 Roof Structure**

The roof design and structure are varied in the zones. For the Hausa, the roof is either dome or flat. The external and internal spaces are sculptured and carefully decorated in embossed features taking advantage of the plasticity of the materials (clay, puddle mud or laterite). The great interiors of the Hausa urban architecture are famous for their embossed designs, vaulted and ribbed reinforced mud ceilings. The



Yoruba, Edo and the Igbo traditional roof is pitched and covered with thatch or straw (Nduka, 2013).

#### **2.3.9 Access to Courtyard**

The access to the courtyard are different in the zones. Male members of the community are allowed to go beyond the outer courtyard in the Yoruba, Edo and Igbo communities. But this is not allowed in the Hausa and some Yoruba community where the practice of ‘purdah’ exists.

It is evident that there are similarities and dissimilarities in respect to architectural style, construction material, culture and external influences as a result of colonization and or migration of people from one location to another. These affected in no small measure the character of traditional Nigerian architecture. Every external contact or influence contributed to the history of that area (zone) architecturally and that should be noted (Nduka, 2013). That is why this study thinks that there is the need to evaluate the traditional architecture of the Igala people of North Central Nigeria.

### **2.4 Evolving Trends in Nigerian Architecture from Pre-Colonial to Modern Era**

Architecture is an art that is closely related to culture of a people. Every piece of architectural work has a lot to say about the time and culture that gave rise to it. As such, different ethnic groups that are found in Nigeria have distinct styles of traditional or vernacular architecture peculiar to them, which Denyer (1978) has classified into two major groups; the round and rectangular forms.

Before and during the early part of the European colonization of Africa, the entire continent was unwittingly perceived as one without any civilization, let alone, a cultural heritage. However, many European travellers, traders and missionaries who visited Africa during this period marvelled at what they discovered: Africa has a rich civilized Culture, Empires and Kingdoms whose achievements could be compared to those of Europe. The ancient Kingdoms of Benin, Oyo and Kanem-Borno were known to have achieved remarkable feats in architecture. Some testimonies of these achievements have survived till this modern time. The city walls and moats of Ancient Benin City, the Zaria City wall and some palaces of Obas and Emirs still stand as a reminder of an era when Africans were in control of their destiny and could express their values, creativity and civility in prodigious design and crafting of their shelter (Uchegbu, 2007).

In Nigeria today, the traditional architecture of the pre-colonial and colonial era has been overtaken by the European style or modern architectural forms. Over several decades the expression of our cultural heritage in architectural forms has diminished and in its place, new forms and trends in building design and construction, inspired by colonial and later modern industrial age have taken over the Nigerian landscape. Prior to the colonial era, certain forms of building design and construction as well as arrangement or layout of buildings could be identified as representative of a given ethnic group in the country. This can no longer be said of the situation today as designers grapple with what has been borrowed from the West in an attempt to modify and have it suited to the Nigerian environment. Architectural forms in Nigeria have therefore moved steadily directly away from the expression of culture in design to meeting the demands of modern industrial age, grappling with a lack of appropriate technology and economic problems, all of which define the present trend

of architectural form in the country. Going back in history we can point out the peculiarity of Nigerian traditional architecture and trace the influences that brought about the present trend (Uchegbu, 2007).

#### **2.4.1 *Pre-colonial Architecture in Nigeria***

The Nigerian architecture, like others in Africa, is deeply enmeshed in ethnography and anthropology (Gutkind, 1953). Traditional African architecture, which some have regarded as vernacular architecture, is in actual fact an expression of the people's way of life and traditional values. Architectural forms within this framework are tied to different ethnic cultural practices. The Nigerian architecture of the pre-colonial era depended on the social, cultural, and religious background of these ethnic groups in the country. The major determinants of form then were social, cultural, religious needs coupled with some environmental factors, like landscape and vegetation. It will be more illuminating to look closely at a specific pre-colonial architecture as found in the Benin and Igbo Kingdom, the mid-western and south-eastern parts of Nigeria, respectively before going on to examine the later influences on architecture after the colonial era (Uchegbu, 2007).

##### **2.4.1.1 *Benin Architecture***

The Benin Kingdom flourished between 15th and 19th century in mid-western Nigeria. It had a rich cultural heritage which includes its prodigious architectural forms. The Oba's palace happened to be the most outstanding architectural masterpiece in all of its territory. The design of the palace was basically such portraying grandeur and influence of powerful ruler. The Benin people were popular brass workers and the palace was replete with bronze plaques adorning the walls and columns. They always depict war exploits or the dynasty of the king. Building

materials usually comprised of mud blocks, timber, thatch leaves, palm, stone. The royal palace was divided into living spaces and an open courtyard. This is characteristic of many residences in southern Nigeria especially the residence of wealthy titled men. The courtyard is used for ceremonies and official engagements. Meanwhile the living area is divided into apartments with long beautiful square galleries. The entire city of Benin was surrounded by nine (9) meter high defence wall with a nine (9) meter deep moat. Remnants of these impressive city wall and moat can still be seen at the site of the ancient city today (Uchegbu, 2007).

#### **2.4.1.2 Igbo Architecture**

Excavations from the village of Igboukwu in south eastern Nigeria have revealed a lot about the lifestyle of the Igbos before the colonial period (Isichei, 1976). Although the Igbos had a decentralized government and did not build large empires like Oyo and Benin, they still had a remarkable culture which was reflected in their art works and Architecture. A prominent feature of Architectural form among the Igbos was the entrance gate way and the concept of the *Obi*. The gate house indicates the status of the family. The richness of the door leaf has a lot to say about the head of the family. A different design of entrance gate announces the habitation of a titled *ozo* man, or chieftain. In this context, the entrance gate serves more than just the primary function of permitting wanted visitor and restricting unwanted visitors. Neaher (1980) likened this to the skin and its filtering function; accepting what is beneficial to the body and restricting what is dangerous.

The *obi*, another feature and in fact the most prominent feature of Igbo house form is an outer court for the head of the family. Usually a square shaped low walled pagoda type of structure often sited close to the entrance gate. This is the place where the

head of the family meets and entertains his guests. It is also a school where the father educates the sons on the traditions of the community and different arts and crafts of the people, through folklore and other practical exercises, over a keg of palm wine. Like many other ethnic groups in the country, the Igbos are polygamous, traditionally for this, the *obi* also serves as a place where the head of the family can meet with his wives and family members. Beyond the *obi*, the primary dwelling units are round or square shaped huts.

Design form also changed or rather became a hybrid whereby the entrance gate was still retained in many exclusive homes but now showing more elaborate designs as status symbols (Uchegbu, 2007).

#### **2.4.1.3 Hausa Architecture**

Typical Hausa house is a replica of a building classification under "Sudanese." The associated building form was prevalent and paramount in the West African savannah areas of the Niger and Chad river basin (Fatiregun, 1999). Meanwhile, Hausa design associates with courtyard form concepts encircled by numerous rooms that facilitate the expansion to accommodate more inhabitants such as wives and children. Furthermore, the planning concept involves the provision of open air space for injunction. Islamic design principle required seclusion and privacy for women. In this regard, Hausa compounds were divided into two areas namely: the front area or the "*Zaure*," which belonged to the master of the house and the latter part beyond the "*Zaure*" provided as women quarters arranged around a courtyard. In compliance with Islamic injunction, women in purdah are secluded from the outer male reception area.

Osasona (2007) asserted that “*Zaure*” happens to be a multi-purpose space that symbolizes social- religious unit within the Hausa building, defining the level of social acceptance. Notwithstanding this, only male counterpart that is respected and dignified is allowed to move beyond this zone. The “*Zaure*” major function includes reception, security, protection, privacy, moral, ethnic ideas, decorations and administration. Moreover, the provision of fairly large spaces at the vicinity of the neighbourhood necessitates congregational assembly to celebrate social functions such as naming ceremony, wedding ceremony, and playground for children and so forth (Adamu, 2005).

The indigenous materials for construction in Hausa land involve four major materials namely: earth, timber, reeds, grasses, and stones (Moughtin, 1985), (Dmochowski, 1990). The construction involved pear-shaped sun dried mud bricks that are moulded from the red laterite soil (Jankasa) found around the neighbourhood. The laterite soil has high fibre content, when skillfully moulded, produces excellent materials for buildings’ walls and roofs. Also, moulding the mud walls bricks involves mixing the laterite soil with water thoroughly. When properly dried, they are laid in regular courses with points facing upwards (“*Tubali*” method of construction). Egg-shaped units of Adobe (“*Tubali*”) which has been earth-plastered, are put together to create buildings given a monolithic appearance (Osasona, 2007). In the construction, the roofs structures in this zone are formed with small door space with little or no window openings which are usually achieved with the intention to eliminate the hot, dry and dusty air. The prevention is also applicable to bright daylight and entry of air at night. Similarly, the location and small size of the window helps in curtailing the incursion of dust and flies. The construction of mud roofs involves split palm frond pieces which are laid on palm frond beams in herringbone fashion and plastered on

both sides with mud. Plastering of the walls is made with mud containing a mixture of potash or juice derived from the locust bean. Meanwhile, the wide use of flat or vaulted mud roofs in Hausa land indicates method of forestalling the risks of urban fire prevention, therefore, the formulation of policies proscribing the use of thatched roofs within the urban metropolis. This policy started the remarkable disparity between urban and rural architecture in Hausa land. Consequently, while the structures in urban areas had mud roofs and rectangular walls, the ones in sub-urban areas had simple thatch roofs over circular planes.

Meanwhile, the wide use of mud roofs responds to extreme temperature differences between days and nights, because they are semi-conductors that maintain temperature equilibrium, as well as buffer between interiors and exteriors environments. The introduction of new building materials such as cement and corrugated iron sheet from Europe had the tremendous impact on the physical appearance and body. For instance, corrugated iron sheets quickly gained wide acceptance, hence the abandonment of traditional thatch roofs which were highly inflammable. In addition, since it is very difficult to roof circular structure with rectangular iron sheets, this form the basis in some areas where basic shape of their structure changed to rectangular one.

Adamu (2005) categorized decoration in Hausa traditional architecture into three groups namely; surface design, calligraphy and ornamental. The author observed that the three categories could be displayed on a single facade of the “*Zaure*”, although the choice depends on the status and preference of the users. “*Graffito*” is the term given to a form of decoration in which different colour wall plasters are laid in layers, and the design is made by scratching away the upper layers. Denyer (1978)

opined that this decoration may imbue some magical or religious significance. The Hausa practiced this form of “*Graffito*” on which decorative patterns are scratched into smooth wall patterns resulting from texturing the interstices of the decorative layout by roughing it with a piece of metal. The Hausa people decorate their street facade with intricate interlacing arabesque relief forms painted in rich colours. Hence, street facade decoration is usually a demonstration of wealth and social prestige amongst Hausa.

#### **2.4.1.4 Yoruba Architecture**

In traditional Yoruba settlements, land use types were restricted mainly to residential, markets, Oba's palaces (palaces of traditional rulers), farmlands and shrines, Oluremi (2002). Denyer (1978) asserted that the dominant location in the settlements was the palace of the Oba and the principal market situated next to each other in the centre of the town. Others included the main temple and two wide roads crossing at the centre. The morphology of the traditional Yoruba settlements is often characterized by an amorphous layout with a high concentration of houses. This is so because the Yoruba are an urban people who have lived in large urban communities for several centuries (Ogunba, 2002).

The Yoruba traditional house is of two types. The first is the traditional compound built around one or more courtyards. Dawson (2002) asserted that the spatial configuration of a dwelling or settlement presented a fair map of the economics, social and ideological relation of its inhabitants. It can then be inferred, that the form of a house is influenced by the kind of relationships that exist among the occupants. He concluded that where the family exhibited a nuclear system, the house form was often enclosed in a villa type, while an extended family system tended to have an



open plan. The traditional Yoruba compound house form was borne out of the culture of the Yoruba people and the need to take care of the extended family structure which had survived in Yoruba land.

The compound usually has an open plan, rectangular in design with a single entrance gate, with rooms in the compound facing one or more courtyards. There is a covered verandah or portico in front of the rooms surrounding the courtyard. The verandah is covered by lean-to roofs which are an extension of the saddleback roof into shallow, sunken cisterns in the centre of the courtyard usually referred to as the impluvium. Kinship organization in Yoruba land influences their living pattern and the house form. This encourages close personal contacts, a factor that has contributed to the unity of the people's traditional social structure.

In all compounds, rooms around one courtyard may be occupied by a segment of a lineage and a household in some cases may include several other related and unrelated persons, the size of a compound varies greatly and it is usually determined by the social status of the family progenitor.

Multi-habitation is influenced significantly in the rural areas of West African countries by central issues such as kinship and inheritance. The traditional Africans encourage Multi-habitation, by encouraging their sons to marry and bring their wives into the family compound to perpetuate the family traditions. Traditional housing in Ghana and some other West Africa countries is multi-habited. Multi-habited houses have been shown to provide significant security against crime and a sense of community among the people living in them, since they have only one entrance and the occupants become each other's keeper (Schlyter, 2003).

The need for large number of rooms to accommodate the extended families' kinship organization and inheritance both in the Yoruba culture and in some West Africa cultures like Ghana is a major determinant of this traditional house form. However, in the urban areas, where multi-habitation has evolved, people with similar level of income, social status and cultural inclination live together and form a "microcosm" of the community itself, since each house is composed of unrelated individuals from many ethnic communities who live together in a confined area (Schildkrout, 1978). The second house type in Yoruba traditional architecture consists of a double row of rooms which open into a common corridor which is a common place for working, sitting and storage. The corridor is also an additional sleeping area for overnight callers. This second type is a new type of family house and it became prominent during the 1930s when earnings from cocoa, palm oil and so forth allowed a relatively young man who inherited a share in the family compound to establish his own house, into which some of the family members could move with him. (Amole et al, 1993) The need for many rooms for the owner's immediate family members and some members of the extended family, and a cultural mix as a result of the influence of the Brazilian style from freed slaves (Maraffato, 1983), played an important role in multi-habitation.

This non-compound house form with rooms aligned along a central corridor has been adapted in all the urban centres and villages of developing countries to provide rental accommodation for individual tenants (Okeyinka,2007). Each house is therefore composed of unrelated individuals from various ethnic communities who live together and provide daily help for each other (Valsiner, 2000). Such interactions form the basis of social organization in the West African village setting and even for urban families. The reason for the preponderance of this house type is that, it is a

form of housing which provides rental accommodation at reasonable costs for the large immigrant population in the rapidly expanding cities. Multi-habitation has now been transposed into the urban areas because this form of the house allows inexpensive accommodation and many of the advantages of collectivist life for the residents.

#### **2.4.2 Colonial Architecture in Nigeria**

With the arrival of the Europeans in Nigeria and the subsequent colonization of the country, several changes occurred. The influence of European culture and lifestyle started producing a new class of elite professionals, businessmen, and politicians. Unlike the north where change was extremely slow, the south was faster in imbibing this foreign influence. Religion, education, social and family life all began to witness a hybrid of African and European styles. So also was its architecture. As people began to move away from polygamy, family sizes began to shrink, single unit houses began to appear, yet a difference could be seen in the upper class housing which was built with materials introduced by the Europeans, which include bricks, concrete, corrugated iron roofing sheets, processed timber, metal bars and glass. Wealthy elite political class, businessmen and professionals could afford these styles of housing (Uchegbu, 2007).

##### **2.4.2.1 Domestic/Residential Buildings**

Usually the entire family may now dwell in one singular housing unit, with one lounge or sitting room being the central or focal point in the house where family members gather to interact together, and individual rooms for each person to live in. Although some of the African styles still persist, in some cases, building materials were a combination of mud and concrete for walls and floors, with corrugated iron

roofing for the obvious reasons that the metal outlasts the thatch leaves. Metal roofing became a status symbol. It was common to see a building with mud walls and floors, but plastered with concrete mortar, or mud walls and floors complete, but with corrugated iron roofing (Uchegbu, 2007).

#### ***2.4.2.2 Public Buildings***

Appearance of public buildings which were non-existent in the traditional setting seemed to become the pacesetters and models for individual housing styles. Prior to the European colonization, the only public building was the king's palace courts which served not only as residence for the king but also administrative office and judicial court, and also a civic centre. Most markets were located in village squares, with only sheds for a shelter. With the influx of Christianity in the south (the north having been brought under Islam by the influence of North Africa and Mid-East), church buildings began to appear where un-housed shrines grottos had existed. Administrative offices, court houses, and churches now became models whose design elements could be found in individual residential housing. With the new building materials, building cost rose and also environmental concerns, having made a departure from natural materials (Uchegbu, 2007).

#### ***2.4.3 Post-colonial or Modern Architecture in Nigeria***

At the time of independence, European culture and way of life became entrenched among Nigerians, but this alone could not account for the building style of this era. During this time, modern architecture which was a product of the industrial age had already swept through Europe and other parts of the world. These affected the Nigerian architectural forms. Modern style of building began to replace the old colonial style. The modern style of the industrial age transmuting into a global or

international style that almost defied cultural barriers, was then the preferred style. With these latest influences, a new era dawned in Nigerian architecture emerged (Uchegbu, 2007).

However, modern architecture, in which design elements like metal, glass and even plastic could be used in places that it was unthinkable in the past, like wall skins and doors now proliferate, brought about by advanced technology. The new building materials were on one hand more durable, but expensive and required advanced skills to manipulate. On the other hand, the environmental suitability or friendliness continued to raise debates. Ventilation and cooling was usually achieved by artificial means in contrast to the traditional style. With rapid urbanization and its attendant malaise in housing, providing housing for teeming population of low class individuals using the new style of building construction has been a sticky problem. In many cases, aesthetics convenience, and comfort were sacrificed on the altar of economic viability. Another contributor to the present style of architecture in Nigeria was the bizarre issue of security or rather insecurity (Godwin, 1998). With the rise in violent crimes, Nigerian buildings looked more like prisons than residences or offices. In an attempt to keep out robbers and assassins, building designs must incorporate security features ranging from high fences and equally tall gates to metal doors and window oars. Initially these were an aesthetic killer, but very fanciful designs have come up to soften the aesthetic of what would have looked like mere steel cage (Uchegbu, 2007).

## **2.5 Historical Background and Origin of the Igala People**

Igala is an ethnic group in Nigeria. The home of the Igala people is situated east of the river Niger and Benue confluence and astride the Niger in Lokoja, Kogi State of

Nigeria. The Igalas are identified by the tradition of Western Igbos as descendants of Igbo migrants who migrated westward during the expansion of the proto-Igbo peoples at the beginning of the 1<sup>st</sup> millennium (See Fig. 2.15) (Egbunu, 2001).

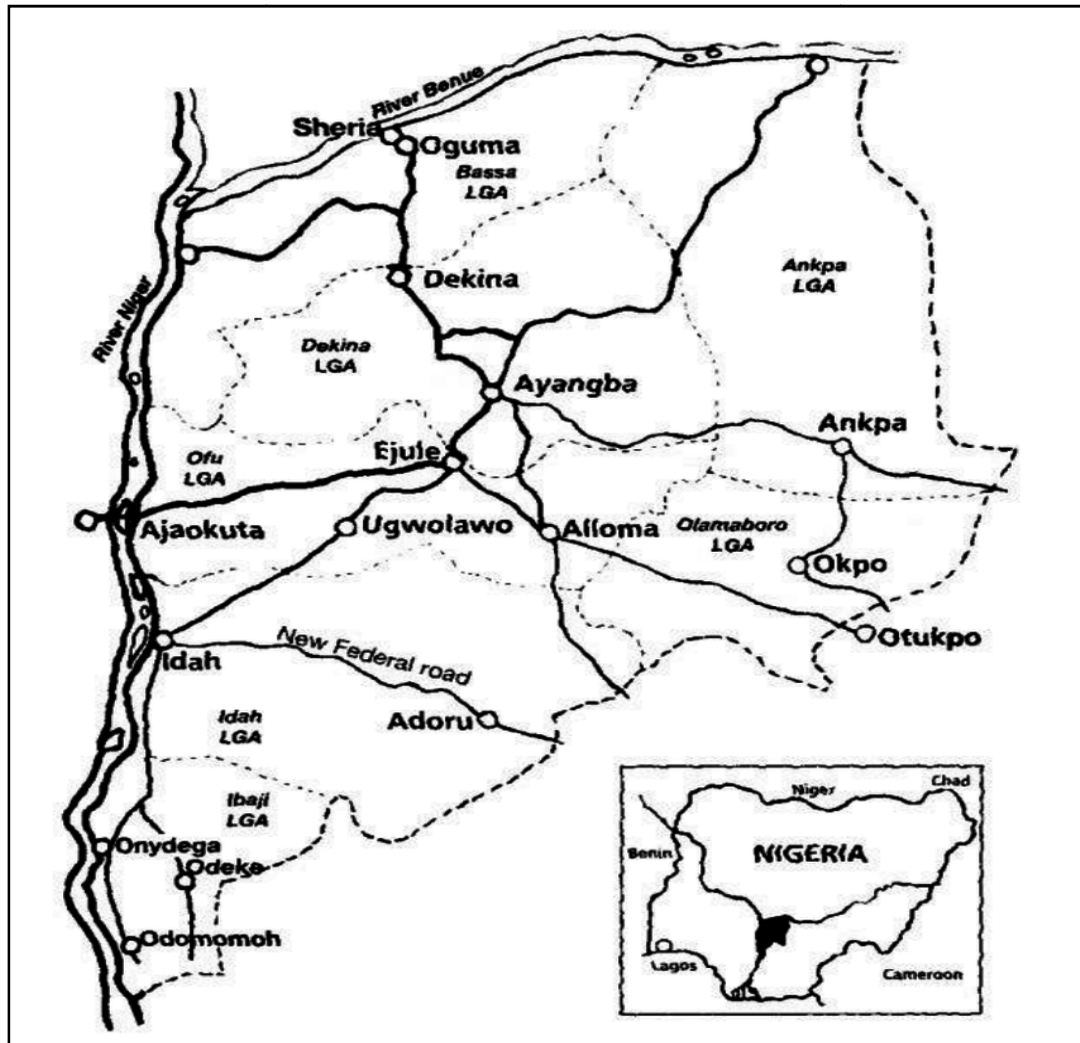


Fig 2.15: Map of Igala land.

Source: Kogi State Ministry of Land and Environment (2008).

The Yoruba speaking people are in turn identified by some Igala people as descendants who continued on west and eventually settled across Western Nigeria and Benin. Igala land begins at Adamagu, a few kilometres north of Onitsha and continues up to a confluence, from where it protrudes linearly north-eastward along the Benue. It finally terminates at Amagede at the eastern boundary which is

demarcated by the Idoma in Oyagede and Otupi and north Nsukka areas of Enugu Ezike, Itah Edem, Ururu, Adavi, and Ogugu of the Anambra rivers. The population of Igalas is estimated to be about one million and five hundred thousand, over 70% of whom are subsistence farmers (Egbunu, 2001).

Boston (1967) opined that the central geographical location of the Igala people has exposed them to a wide variety of linguistic as well as cultural influences from other ethnic groups in the country. Notable among these are the Igbira, the Bini, the Igbo, the Hausa, the Idoma and the Yoruba ethnic groups. However, the most significant relationship is between the Igala and the Yoruba people (Boston, 1967).

Igala and Yoruba have important historical and cultural relationships. The languages of the two ethnic groups bear such a close resemblance that researchers such as Forde (1951) and Westermann and Bryan (1952) regarded Igala as a dialect of Yoruba or a language resulting from the fusion of Yoruba and Idoma (Silverstein, 1973). Akinkugbe (1976) opined that based on evidence, Igala is neither a dialect of Yoruba nor a language resulting from the fusion of Yoruba and Idoma as claimed by Silverstein, but rather Igala shares a “common ancestor” with Yoruba. Akinkugbe (1976) further stated that “... this common ancestor was neither Yoruba nor Igala but what we have labelled here as Proto-Yoruba-Itsekiri-Igala (PYIG). The evidence suggests further that presumably, Igala separated from the group before the split of Yoruba into the present day Yoruba dialects considering the extent of linguistic divergence found between Igala and the rest of Yoruba”.

Other comparative works aimed at investigating the language status of Igala (directly and indirectly) are by Omamor (1967) and Williamson (1973). In fact, Williamson (1973) is the originator of the acronym ‘Yoruboid’ for the group of languages

comprising Yoruba, Itsekiri and Igala for the purpose of distinguishing “between Yoruba as a language, and Yoruba, Itsekiri and Igala as a genetic group”. Akinkugbe (1976) referred to the proto-language of the group as Proto-Yoruboid in 1976 and Proto-Yoruba-Itsekiri-Igala (PYIG) in 1978. Contemporary historians believe that the Igala most likely shared a proto-kwa ancestry with the modern Igbo and Yoruba people as well as most ethnic groups of Nigeria today. Hence, the ethnic family would include not only the prior two, but groups like the Idoma, and the Nupe to the north. The name Igala refers to both the people (*abo Igala*) and the language (*ichi Igala*) (Egbunu, 2009).

## **2.6 Igala Traditional Beliefs**

The term ‘Igala traditional beliefs’ refers to the indigenous religious beliefs and practices of the Igala people. The religion is traditional and indigenous to them. By traditional, it means that the religion has been with the people from generation to generation. The religion is anchored on the culture of the Igala people. This is the reason one can say that the Igala indigenous religious community is rooted in the traditional religion which starts from birth, guides the people in life and after-life. There is no facet of the life of the Igala people that one will plunge into without having religion in its full manifestation (Okwoli, 1996). The Igalas, right from time immemorial are born into the traditional religion, live the religion, die and are buried with the religion and the religion continues even after death. This means that the Igala people are very deeply religious. Quarcoopome (1987) in this regard remarked that religion is so woven into the cultural fabric of the African life that he (man) has been variously described as “Notoriously religious” or “incurably religious” (Quarcoopome, 1987). In this respect, the understanding of the people is that, Igala traditional religion is generational, that is, it passes from one generation to the next.



The religion is seen and observed in all aspect of the life of the people. This is true of what Okwoli (1996) unequivocally claimed, that Igala traditional religion developed or evolved in Igala. In other words, every Igala person was born into it. It was a religion that was handed from generation to generation. The traditional religion is an essential part of the way of life of Igala people. The influence of the religion covers all life from birth of a person to his/her death. Igala people teach the religion informally to their children through constant practice, conversation and through participating in religious activities such as rituals, ceremonies and festivals (Okwoli, 1996).

Onekutu (1996) in a similar perspective attested to this understanding and belief when he stated that, a man is born with religion and he dies with it, because after his death he ascends to another realm of religious worship – the ancestry cult. This elucidates why it is almost impossible to extricate the religious aspect of human life in Igala traditional society from his economic and socio-political life. Thus, the Igala man explains the world around him both temporally and spiritually in religious terms. His culture, social and moral behaviour are influenced by his religious beliefs and practices. Religion permeates every aspect of the life of Igala people that one can say with Leonard in Metuh (1992) in a symbolic manner that “they eat religiously, drink religiously, bathe religiously, and dress religiously” (Metuh, 1992:12). A close observation of Igala society therefore, reveals that religion is at the root of Igala culture and is the determining principle of Igala life. It is no exaggeration, therefore, to say that in traditional Igala, religion is life and life is religion. The Igala people are engaged in religion in whatever they do, be it farming, fishing or hunting as Ahmodu (2009) asserted that “the Igala people whether in eating, drinking, dancing, singing or travelling, having leisure time or resting are

always engaged in religion. Religion gives meaning and zest to their entire life” Religion therefore is not an abstraction but a part of reality and everyday life. This supports what Idowu and Opoku (1978) clearly enunciated that “a people who in all things are religious”. Considering the deep rootedness of Igala traditional religion in the life of the people, and their religious inclination, Mbiti (1992) supported the idea that wherever the African is, there is his religion. He carries it to the field where he is sowing seeds or harvesting a new crop, he takes it with him to the beer party or to attend a funeral ceremony; and if he is educated, he takes religion with him to the examination room at school or in the university; if he is a politician, he takes it to the house of parliament (Mbiti, 1992).

## **2.7 Igala Cosmology**

Igala cosmology hinges on three worlds, the world of the living (*efi'lẹ*), the world of the dead (*ef'qjegwu*) and the space inhabited by the Supreme Being (*Odoba, Qgagwu, Qjqochamachala*). A typical Igala person believes in God (*Qjq*) as the Supreme Being. The concept of God is therefore not foreign to the Igala mind. The belief in Almighty God (*Qjq-qchamachala*) who is regarded as Alpha and Omega precedes the advent of the missionaries. God (*Qjq*), the Supreme Being is also known by his attributes as creator, as the immortal, omnipotent, omniscient, omnipresent, unique, transcendent judge and King. They also believe in divinities and spirits (Egbunu, 2013).

The traditional Igala person believes in divinities or deities (See Fig. 2.16) who are said to be next in hierarchy to the Supreme Being. Such are personified in certain natural forces and phenomena, especially in rivers, lakes, trees, the wind, deserts, stones, hills. For example; Water spirits (*alijenu*), spirit husband (*ikpakachi*), earth goddess (*anẹ*), fairies or bush babies (*ichẹkpa*), twins (*ejima*), goodluck (*egbunu*) to

mention a few. In their order of ranking, the next is belief in deified ancestors (*ibegu*). *Ibegu* refers to the spirits of elderly members of one's family, lineage or society that died non-violent or non-evil death and have promising offspring. The Igala person believes also in mysterious powers, which come in various forms such as incantations (*achẹ*), medicine (*ogwu*), magic (*ifamfam*) and witchcraft (*ochu*, *ogbẹ*)

Three basic elements of worship are easily identifiable, namely; Sacrifice, Music/dancing and Prayer. Certain people are regarded as sacred, these include family heads (elders), village heads or town leaders, who most often act as chief priests before traditional shrines; they also believe in oracles or divination by seeds (*ifa-anwa*), by use of sand (*ifa-ebutu*), by cowries (*ifa ẹyọ-ọkọ*), by water (*ifa-omi*) (Egbunu, 2013).



Fig 2.16: Image of Igala god.  
Source: Egbunu (2013).

Certain animals and materials are commonly used for sacrifices in Igala land. These include food stuffs or crops (*amewn egbaru*) such as maize (*akpa, igbala*), yam (*uchu*), kolanut (*obi*), beans (*egwa*), rice (*ochikapa*) to mention a few. Birds such as hens (*ajuwe*), chicks (*ebune*), cocks (*aiko*), pigeon (*oketebere*); animals such as She-goats (*ewo-ole*), he-goats (*obuko*), ram (*okolo*), cow (*okunjo*), tortoise (*abedjo or anejere*), lizard (*abuta*), and some liquid substances which include; cold water (*omi eruru*), local liquor (*burukutu*), gin (*kai-kai*), and palm-oil (*ekpo ojo*). Other items also employed could be articles of clothing, pieces of white, red or black cloths, money, especially coins or cowries, red feather (*uloko*), alligator pepper (*ata*) to mention a few (Egbunu, 2013).

It is noteworthy that there exist other aspects of the culture which possess certain dynamics or key values that are hinged on some of the above practices. Among them are; child-bearing and the male-child phenomenon (fecundity or fertility cults), naming ceremonies, circumcisions (*amonoji*). Widowhood practices redolent with so much oppression, deprivation, discrimination, rejection, humiliation, abuse and injustice. Other cultures and practices include spirit husbands (*ikpakachi*), high bride price, arrangee-marriages, levirate marriage (*oya-ogwu*), second burial rites (*ubi*), masquerade cults, coronation and initiation of traditional rulers to mention a few. In addition, there are also the issue of caste system or descendants of slaves (*amoma adu*), use of charms, incisions, oath-taking, rain-making, reincarnation rites, traditional festivals to mention a few.

Some of the cultural or traditional practices mentioned here have gone extinct in some areas of the land, but are still so prevalent in many rural areas. However, there are many other practices which may not be directly related to traditional religion but are values which need to be cultivated, cherished or modified with all sense of

commitment. Such values include the use of Igala proverbs, myths, legends, language, sculpture, greetings, (including tribal marks, tattooing, and body decoration), cuisines, discipline, dressing and agriculture (Egbunu, 2013).

## 2.8 Igala Festivals and Traditional Masquerades

In Igala land, there are the *Ocho*, *Qgaganyi*, *Qgani*, *Italo*, *Aboko-Ebije*, *Egbe*, *Qte Igbegwu* and *Italo* festivals. The *Ocho* and *Qte Igbegwu* festivals are celebrated to herald the coming of the dry season. While the *Ocho* is a royal festival, the *Qte Igbegwu* festival is an occupational celebration for the Igala people (See Figures 2.17 and 2.18) (Egbunu, 2013).



Fig 2.17: An Ogani Festival Warrior.  
Source: <https://www.igala+people>, 2017.



Fig 2.18: Qte Ibegwu Festival.

Source: <http://fidelegbunu.com/node/44>, 2017.

Masquerade is an integral part of Igala tradition. Masquerade phenomenon stems from Igala traditional world view. In their world view, they believe in life, death and life after death. They believe that if any of them dies, his soul ascends to the spiritual realm and takes another body and reappears in masquerade form. This concept according to Egwuda-Ugbada (2003) emphasized the continuity of life and the recycling of life which is referred to as reincarnation (Egwuda-Ugbada, 2003). The dead come back into this world again by being born to an offspring or a very close relative, or through masquerade. The Igala religious piety and reverence hold ancestral spirits (*Ibegwu*) to a high esteem. The dead who is now an ancestor is imbued with supernatural power to move at will to visit their living offspring through the process of reincarnation or sometimes as masquerade. The dead are always summoned into the masquerade representation, hence there is strong link between the living and the dead through masquerade (Inyanda, 2010). In tandem with the above, Omegoha (2012) observed that “the influence of the ancestral spirit

on the living are apparently demonstrated through the activities of the masquerade” (Egbunu, 2009).

Among the Igalas, it is believed that Attah Igala who is both the spiritual, political and cultural father/head of the Igalas owns the masquerades. hence references are made to masquerades as Attah’s masquerades (*egwu Attah*) (Machi, 1980). As spirits who operate between the two realm of existence, masquerades are bilingual and guard jealously issues of morality of the family through the extended families to the village, town or community levels. They frown upon and punish severely any offence that borders on adultery, fornication, incest, stealing and any such actions considered immoral. They also stand out for justice and fair play by helping to enforce the laws of the land (Ugwu, 2000). Masquerades were seen as agent of peace among Igala people. The peace achieved by the masquerades was seen as one with a spiritual influence on the living, and as such was more long-lasting and just. Owing to poor perception of the meaning and practice of most cultural tenets of Africans, the western agents of civilization had alleged that African religion was heathenistic. They used other concepts to denigrate the practice of the people’s religion. Such concepts include; paganism, fetishism, animism and things of such sort to qualify the traditional way of worshipping God. The effect of these attitudes loom so high on the use of some known and cherished cultural agents in achieving a good societal living (Omegoha, 2012). Western civilization brought enlightenment through the process of education. By this, the people became exposed to what hitherto has been accepted without question. On account of this, what were regarded as taboo in the authentic traditional society is given different interpretation today under the lens of education and civilization. Masquerade, hitherto taken to be the coming of ancestral spirits to



the world of the living through the mouths of ant-hills are today known as men in mask (See Figures 2.19 and 2.20) (Okwo & Omegoha, 2014).



Fig 2.19: A Typical Igala Masquerade.  
Source: Tripple heritage (2010).



Fig 2.20: A Typical Igala Masquerade in a Ceremony.  
Source: Tripple heritage (2010).

## 2.9 Igala Marriage System

Usually, girls were ready for marriage between the ages of fifteen years and eighteen years (15-18). As far back as 1875, courtship begins among individuals during a trip



to the river, stream and farm or during the moonlight play. Sometimes parents go out to look for wife or husband for their children, even brothers and sisters do same for their siblings. All these will later lead to engagement. Sometimes when a baby girl is born, suitors begin to approach the parents by sending firewood or bundle of yam or even pot of water, saying *anami* which means my In-Law. During engagement, investigations are carried out by both families to inquire of the existence of any diseases and scandals that may likely bring shame to them. In the absence of such scandals or diseases, the first step in marriage commences. The parents of the groom pay a courtesy visit to the girl's family on an appointed date with a gift of few kola nuts among others, declaring the intention of marriage. The acceptance of the kola nut by the bride-to-be is an indication of willingness and agreement. The first step is called *uyon wẹ ẹmugba* interpreted as 'if you like me, then accept my gift'.

After this stage, a date is chosen for the marriage ceremony which usually takes place in the home of the bride's family. As the date of the ceremony draws near, the groom sends food stuffs or money for the occasion. On the day of the marriage ceremony, the bride and the bridegroom would be presented to the two families and the public after the bride prize is properly settled (See Fig. 2.21). Kola nut, palm wine, clothing materials and dry gin played prominent role in this ceremony. An elder from the bride's family presided over the ceremony by saying prayers and breaking the kola nut. Before the ceremony, the bride-to-be would be sent to the bridegroom's family to spend fourteen days (14) or three market days in order to familiarize with her new family. After the marriage ceremony, at sun set, the women and age grade from the bride's family with her friends lead the new bride, who is now called *Iyawo*, to her husband's house with all her property, while the family of the bridegroom would be feasting, drinking, singing and dancing waiting for the

arrival of the bride. In most cases, the entourage of the bride would send advance message to the bridegroom that an obstacle was preventing them on their way, and this required the bridegroom to send money or gift items to remove the obstacle.

On arrival at the bridegroom's, the new couple is expected to have their first sexual relationship when both families are still staying with them. The bridegroom's mother would demand for the bed spread on which the new couple slept. If there was a stain of blood on the sheets, the bride is regarded as a virgin and she would be accorded more respect, accompanied with many gifts including money. In the event that there was no blood stain on the bed spread, the bride and her family would be put to shame and such bride might be treated with disdain. This is the reason all girls are advised to keep their virginity until they are fully married (Akor, 2015).

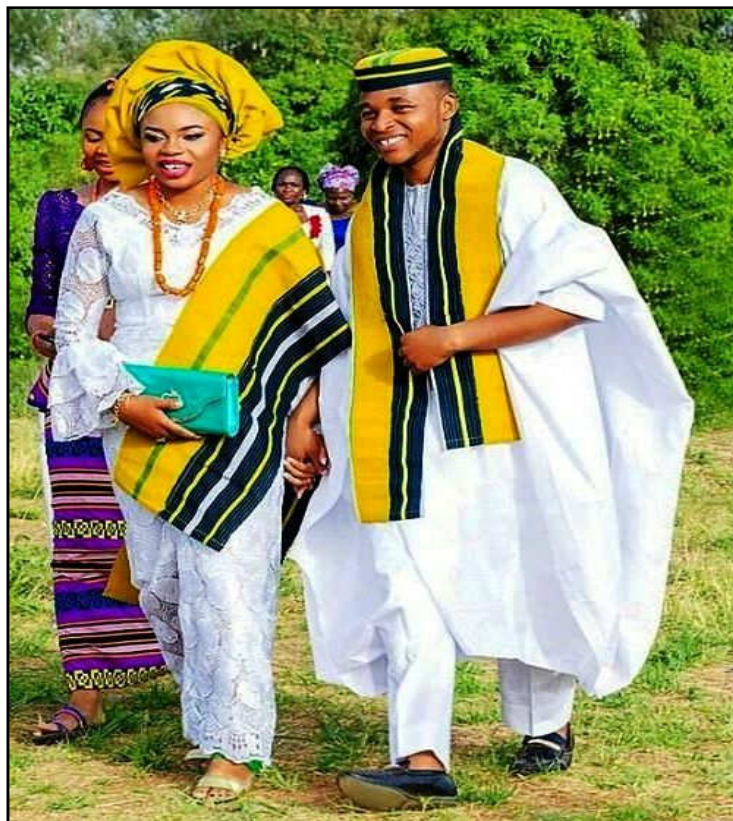


Fig 2.21: Newly Wedded Igala Couple.  
Source: <https://www.igala+people>, 2017.

### 2.10 Incest Taboo Among the Igala People

Incest taboo refers to culture or norm that prohibits practices of sexual relation between relatives. Relations with clan members are permissible where no traceable genealogical relations exist, but members of different clans cannot have sexual relationship if there exist blood ties. The restrictions on marriage and sexual relation amongst relations in Igala land is based on normative sense of decency and the unequivocal belief in the sanctity of blood ties. There are rules, though not written concerning appropriate and inappropriate sexual relation. Incest, which is sexual intercourse between individual related in certain degrees of kinship, is prohibited. If a man engages in inappropriate sexual relationship with kin, it is believed that both will suffer severe afflictions from which they would not recover until they confess and the gods are properly appeased through sacrifice. It could also result in barrenness. Both would lose respect among the people as people will no longer take them seriously. In the past young girls involved in such acts hardly ever marry.

The Igalas principal cult *egu* is connected with the ancestors who are remembered during yam harvest. The *egu* (spirit of the dead) is represented by masks and headdresses called *ojegu*. These ancestors are responsible for punishing those who indulge in incestuous practice (See Fig. 2.22). The Igala people relate to one another in different ways. Siblings and others who are closely related genetically are considered family because they are patrilineal and belong in the father's clan. As a consequence, patrilineal relationship between brother/sister, father/daughter, mother/son, uncle/niece to mention a few, are considered incestuous. Sexual relationship between a man and his mother's sister and mother's sister's daughter are also considered incestuous. Similarly, a man and his father's sister cannot have a

flirtatious relationship, have sex and marry, not even with his father's sister's daughter (Egbunu, 2013).



Fig 2.22: Dance Crest "*Ojegu*" of the Igala People.  
Source: <http://fidelegbunu.com>, 2017.

### **2.11 Igala Social Organisation and Socio-Cultural Life**

The social organization is essentially kin-based. The nuclear family is the smallest social unit but this is inseparably tied to the extended family system involving the lineage and the clan. All members of these extra nuclear family units regard one another as brothers or sisters. A number of agnatic families combine to form a clan and a number of them may constitute a hamlet or even village. Often the members of such hamlets or villages trace their origin to common apical ancestors. The sociological arrangement is, itself a factor that promotes unity and peace among the people (See Fig. 2.23) (Egbunu, 2013).



Fig 2.23: Igala Social Gathering.  
Source: <https://www.igala+people>, 2017.

According to Okwoli (1973), the Idah dialect, central dialect, the Dekina dialect with Bassa-Igbira influence, the Ankpa dialect with Idoma influence and trans-Niger-Anambra dialect (in Odolu and Ibaji) with Igbo influence, are common dialects in Igala land. With the coming of British colonial masters and missionaries, English language spread to every nook and cranny of the land, even at some level, Pidgin English. The villages in the land are a conglomeration of houses whose first settlers founded as a result of good farmland, rich fish ponds and favourable hunting expeditions. In these villages, settlements are sometimes lineal. But in most cases, people live according to clans thereby giving way to the circular style. The buildings were traditionally mud walls with thatched roofs (*unyi-egbe*), but as a result of developments, such locally constructed houses have given way to solid cement walls, rectangular in shape with corrugated roofing sheets (Okwoli, 1973).

## 2.12 Igala Traditional Family Structure

The Igalas are patrilineal and authority in the family or clan resides in the men. Patrilineality among the people inexplicably entails virolocal residence in which the

woman moves into her husband's household among his paternal kinsmen, or sometimes his maternal kinsmen. The basic family unit is the nuclear family, made up of a husband, his wife and their children, as well as attached kin (See Fig. 2.24). As farmers, the need for more hands on the farm meant that men married more wives so that they could raise more children whose help was needed on the farm. Also, polygamy was a status symbol and reflection of a man's wealth. The more prevalent was the compound family which included a man, his wives and children. The nuclear and compound families are, in real sense, units of the wider and longer-lasting patilineal joint family which typically comprises two or more generations of brothers and sons, and their wives and children. In this way, Igala families are long-lasting and self-perpetuating as the death of a member makes no difference to its overall structure. It can last over several generations with a membership of up to one hundred (100) or more (Egbunu, 2013).



Fig 2.24: Igala Nuclear Family.  
Source: <https://www.igala+people>, 2017.



### **2.13 Igala Traditional Political Structure**

Igala Kingdom was founded by Abutu- Eje in the 7th century. The Igala political structure is concerned on the monarchy, headed by a paramount king, the Attah Igala who is regarded as the father of all Igala people. The word Attah means Father and the full title of the ruler is Attah Igala which means the Father of Igalas (the Igala word for King is *Onu*). Although Attah means father, female kingship is recognized and Igala has had female kings in the past (Boston, 1968).

Attahs of old wielded a lot of power and authority and established a very powerful kingdom possibly dating to about the 8th or 9th century AD. At its apogee, about the 16th century, the Igala kingdom extended far and wide to include parts of Igbo land (Nsukka Area) to the south, Koton-karfe (including and beyond north of Kogi State) to the north, part of western Idoma land to the east (including Igumale), and parts of Etsakor in the west (Egbunu, 2013).

Among the most revered Attahs of the Igala kingdom are Attah Ayegba Oma Idoko and Attah Ameh Oboni. According to oral tradition, Attah Ayegba Oma Idoko offered his most beloved daughter, Princess Inikpi to ensure that the Igalas win a war of liberation from the Jukuns' dominance. Attah Ameh Oboni is known to be very brave and resolute. He is revered for his stiff resistance of the British and his struggles to uphold some ancient traditions of the Igalas. When he got wind of a plan by the British to depose and exile him, he committed suicide by hanging himself to forestall the plan. He is regarded by most Igalas as the last real Attah Igala (Boston, 1967). The current Attah Igala is His Royal Majesty Michael Idakwo Ameh Oboni (See Fig. 2.25).



Fig 2.25: Current Attah of Igala, HRM Michael Idakwo Ameh Oboni.  
Source: <https://www.igala+people>, 2017.

#### 2.14 Culture and Architecture

Culture is a set of beliefs, knowledge, education, customs and values that a society has developed (Naghizadeh, 2000). The impact of culture in different areas of life, including art, architecture and urban planning and development, and ways of life is undeniable (Madadpoor, 2000). The culture of a people exercises an over-riding influence on the type and form of the house evolved by the people (Olotuah, 1997), as such a house symbolizes the socio-cultural heritage of a people. Gardi (1973) asserted that housing is shaped by the culture of a people, alongside their needs and technical possibilities open to them.

Architecture is scientific-artistic activities to create space and organize it; crystallization of the culture of a community over time; and clear mirror of the society in different periods. Architecture is related to the way a house or city is built in order to meet non-material human needs. Traditional architecture which was based on rural culture was created by expedient decision which depended on a number of



factors such as social, economic, climatic and so forth. The factor of culture in traditional architecture is the most important since it embodies what is acceptable to the community. In traditional architecture, the decisions involved in the activity of building are pre-determined by the tradition and the customs of the people (Gardi, 1973). The model of the relationship between culture and architecture can be expressed based on four different definitions as shown in Table 2.1 (Shayan, 2011).

Table 2.1: The Model of the Relationship between Culture and Architecture

<b>Architecture and culture</b>	<b>Architecture</b>	<b>Scope of culture</b>
Functional	As a result of social components interaction	Sociology
Conceptual	As an artistic product that includes an end elevation of the mind	Aesthetics
Functional Conceptual	As a matter of human life and effective on actions	Anthropology
Perceptual	As a result of mental attitude to the surrounding built environment	Psychology

Source: Shayan (2011).

Identity is an issue that is important in all areas including architecture. Questions like ‘where do we belong?’, ‘Who are we?’, ‘Where are we going?’, can come up in various forms, and related to cultures, religions or nations and countries. The notion that architecture is a reflection of culture is a strong idea and will continue to be discussed. It is a perspective that is a source of inspiration and also the source of the best architects returning to their roots. Human identity is manifested in art as well as in architecture. Humans have always showed their dedication to their roots in arts. So, it can be said that every civilization or ethnic groups offers specific architecture in accordance with their culture at different times (Shayan, 2011).

#### **2.14.1 *Relationship between Culture and Architecture***

To understand the relationship between culture and architecture, the relationship between space and culture should be first studied. Space, as well as culture, has a social construction formed in the process of shaping people's perception of themselves. Space has an important role in strengthening cultural change, because the expected behavioural patterns within a particular space reflect the specific cultural values. This definition implies the construction of a mental space. Organizing the operation of subjective and objective space in the mixed continuous form is called architecture. Proposing the relationship between culture and architecture, especially in the field of psychology, clarifies the need to carving the relationship between humans and their artificial environment. With this attitude, culture is the factor or way of human's relationship with an artificial environment and implies on two categories:

- a) Standardized behaviour, thoughts, and feelings.
- b) Products that are the result or a continuation of the behavior and thinking of people in a given society (Shayan, 2011).

#### **2.14.2 *Architecture as a Symbol of Culture***

Every society with a system being managed, and any ideology governing it has its own goals and aspirations. The main role of culture is to present the mental ideas by introducing the concrete forms. Architecture plays a key role in the process of this transformation. Architecture was and is the true measure of a nation's culture. When a nation can make beautiful furniture and lustres, but the worst buildings are built every day implies dark abnormal situation of the society in which irregularities and lack of power to organize the nation are generally proved (Geroter, 2007). According to Geroter (2007), every building is as a part of the architectural culture assigned to

fulfil a mental opinion through its outward form so it would be an index to measure the culture. Architecture is defined as Spiritual discipline embodied in the buildings, so that every building is a cultural witness whether the good or the bad concept of it (Geroter, 2007).

#### ***2.14.3 Cultural Factors Affecting the Formation of Architectural Spaces***

Culture can affect the formation of architectural spaces through two following ways:

1. The creation of behavioural laws and rules that lead to functional organizing and spatial hierarchy.
2. The creation of memories, beliefs and physical symptoms in the form of symbols, archetypes and metaphors that lead to creating meaning in the architectural space (Shayan, 2011).

#### ***2.14.4 The Reflects of Culture in Architectural Spaces***

There are several factors affecting the art works and architectural spaces that are subsets of culture. This effect is sometimes obvious and sometimes subtle and non-obvious. Some features of culture do not have the same impact on architecture, some are easy, and some are difficult to identify. One of the effects of arts on culture is that some numbers and shapes become important. One of the reasons that numbers are more considered is due to human's perception of the world order in the past understood in the most tangible form, the numerical order. Many of the shapes and numbers were particularly utilized in ceremonies, arts, schools of thought to mention a few. The application of each number or shape in any activity or art was dependent on the one hand, the numerical and visual features of the activity and on the other hand, the features and properties of the shape or number. Therefore, the shapes and numbers consistent with characteristics of mathematics, geometry and less tangible

art and culture were used and considered in the architectural arts like square and circle characteristics; common features of circle and square; cube; sphere-shaped volumes and four arches to mention a few (Diba, 1999).

#### ***2.14.5 The Role of Culture in Promoting Architectural Identity***

Apart from language, rules, values and norms which are regarded as parts of culture of any society, culture has another aspect called material aspect which is also considered as part of the culture of a society because it is rooted in the values and beliefs system. It is from here that the link between culture and architecture can be seen. A building is like a book covered in dust which we should uncover and read. In this way, the culture of people and the society in which they were built are identified (Parhizgar, 2003). Due to direct effect of culture on architecture, it is natural that cultural changes cause transformation in effective concepts and theories in the appearance of architecture and consequently, different ideas of architecture come into existence that determine the interaction between theoretical concepts and methods of culture in general and specifically the theoretical concepts and architecture (Diba, 1999). Every society has its own culture, upon which its foundation of architecture was established, and its architecture is the objective image of its culture. In fact, architecture was and is a true measure of a nation's culture. The culture of the community is responsible for the ways spaces get formed (Ettahad, Azeri, & Kari, 2014).

#### **2.15 Culture and Traditional Housing Forms in Nigeria**

In all societies housing traditions have long been established alongside other community traditions. These traditions, which are well understood among the inhabitants, inform settlement planning which is symptomatic of the attitudes and

values of such communities. Housing is, thus, a cultural phenomenon since it is a reflection of what is acceptable to the community and is built within the context of the community. According to Denyer (1978), the traditional house form of any group of people represents the traditional architecture of such group. The traditional architecture encompasses the form and structure of individual buildings in the house form, the pattern of arrangement of the buildings, and the relationship of the house form with the cultural heritage and identity of the people. Therefore, this research will critically study the Igala traditional house form.

The form of housing evolved by a people is an outgrowth of its function, environment and various socio-economic factors. In this regard, housing is subject to influencing factors such as socials, structure, climate and economics but its determining factor is culture which is the totality of the way of life of the people (Uji, 1992). Housing is a reflection of the cultural, social, and economic values of a society. As a subset of traditional architecture, it evolves from the culture of a community in accordance with the lifestyle of its people, the materials of construction available, and technical possibilities open to them (Gardi, 1973). It is a cultural phenomenon, which is expressed in the ability of a people to meet their needs of shelter in the context of their communities. The role of culture in housing is determinant alongside the moderating effects of economics, climate, and technology which is known to them. Culture enfolds the entire social, economic, anthropological, and spiritual life of a people. It is their patterned ways of thinking, feeling, and reacting which are acquired and transmitted mainly through symbols (Roger & Fleck, 2012). Culture is the personality of a social group which encompasses both the norms and values shared by the members of that group, and is influenced by a large number of factors such as religion, education, nationality, and

social class (Olutuah et al, 2018). Housing is an essential need of mankind which is identifiable with every human society. It is required by every individual and is thus a *sine qua non* for human existence (Olutuah et al, 2018). It reflects the social, material, biological and physical needs of individuals and their economic wherewithal to meet such needs. Adequacy in quantitative and qualitative terms is essential for dignified living and has been found to be a daunting challenge in many human societies particularly in developing countries such as Nigeria. Previous studies have shown the profound inadequacy in housing in Nigeria in both rural and urban areas of the country (Olutuah et al, 2018). In traditional architecture, the social patterns of societies require particular forms for their houses in consonance with their age-long material and spiritual needs (Oliver, 1969). There are various socio-cultural inputs into the development of house forms. Factors such as family size, occupation, religious beliefs, and social standing are of great importance. The house forms are thus a reflection of the cultural heritage of the people handed down to generations, and which have been empirically resolved communally to serve their needs. Spatial planning of the traditional houses and their placement in relation to one another are rooted in the culture of the people. Thus, dwellings are built from within the community as essential to its life and as a direct expression of it. The metamorphism of traditional housing in Nigeria is directly linked to numerous factors. These include the Nigerian colonial experience and consequent contact with the Western world. In spite of these remarkable changes, there are elements that have remained constant or perhaps have survived the onslaught of changes (Sa'ad & Ogunsisi, 1996). Furthermore, in spite of the cultural differences of the people, their environmental conditions and the effect of the various causative factors of change, similarities run across the sub-species of Nigerian traditional architecture,

exemplified in particular by their housing. These are informed by significant cultural motifs of the various ethnic groups. The motifs can be defined broadly as formal, spatial, and decorative (Uji, 1998). They are elements, forms, objects, images, symbols, and prevailing ideas or concepts recurring frequently in the traditional housing of a particular culture. These motifs exhibit the continuity of traditional architecture despite tremendous pressure for changes and can be assimilated into contemporary architecture which would ensure the retention of cultural identity.

The similarities in the traditional Nigerian housing include sieve elements or filtering spaces (*zaure* in Hausa architecture, *obi* in Igbo architecture and *ate* in Tiv architecture), courtyards (including impluvia and patios), the nature and organization of living spaces, services and utility spaces, and circulation spaces. The other features of traditional housing which cut across all sub-species include the dynamism of traditional spaces and forms, plasticity of space and architectural forms, and the persistent impact of the extended Nigerian family. These similarities evidently create some uniformity in the design of modern dwelling units (Olutuah *et al.*, 2018).

Traditional house forms in Nigeria are an integral part of the domestic architecture of the various ethnic groups of the Nigerian people. These groups include the Hausa and Fulani of the far north, the Nupe and Gwari of the Guinea Savannah, the Yoruba, Ibibio, and the Igbo of the equatorial rain forest. Their houses are built in the context of the communities, the lifestyles of the people, and in accordance with their material, biological, and spiritual needs.

Housing is definable in terms of the materials indigenous to the people, their level of technological development, and most importantly their lifestyles. This is why housing is defined as the purest reflection of the lifestyle of a people (Gardi, 1973).

The Yoruba, Igbo, and other closely related group such as the Edo, Ijaw, Urhobo, and Ibibio inhabit the equatorial rain forests. The sub-region experiences heavy rainfall as is typical of the tropical hot-wet climate. This ranges between 1000mm and 1250mm and is often higher in swampy areas. High temperatures and humidity are characteristic of the climate. In the South-West of Nigeria, the traditional house forms of the Yoruba people are informed by their kinship organisation and social structure on the one hand, and climatic requirements on the other. There are two house forms indigenous to the Yoruba people. In the first, the houses are built round one or more courtyards, more often as four rectangular units facing one another. Their compounds usually house several patrilineal-related families who are agnatically linked and are composed of adult males of a particular lineage (Odungbemi, 1985). There is usually a single main entrance with the head of the house and sometimes strangers and distant relatives having rooms close to it. The rooms all open onto a wide verandah running round the courtyard. The courtyard is used as an intensive activity area where domestic chores such as outdoor cooking, animal rearing, arts and craft (mat weaving, cloth dyeing.) are done. The courtyard is also used as an impluvium and where there are more than one, others are as well used as meeting places. The roof of the building is usually a continuous saddle-back type supported by caryatids and sometimes mud columns in the courtyard. In houses of chiefs, as in palaces, the roofing usually has a raised and projected gable known as *kobi* in Yoruba language. The second type of house forms of the Yoruba people is much smaller than the first and is simply an arrangement of rooms in two rows facing a common hall. The hall is usually quite wide as it serves several domestic purposes. Out-houses are usually built at the back to serve as toilets and kitchens. In the main building the hall serves as a kitchen space for some households and even a



sleeping space for night visitors. The walls in both house types are usually constructed of mud. Swish-puddling is the method commonly employed in wall construction. Roofing is usually done with palm leaf mats on a timber framework.

The house forms of the Edo tribes (Bini, Esan, Etsako, Itsekiri) and Urhobo are very similar to those of the Yoruba. The houses have several impluvia that are drained by carefully constructed tanks and pipes. Courtyards are features of the houses too with decorative trees. In the South-East, the Igbo people are the dominant group. Their compounds usually have a single entrance with a covered porch. The fence or compound walls are usually strongly built and sometimes with defensive contrivances. The buildings within the compounds do not have courtyards inside them but rather they are built facing one another creating a common courtyard. The buildings are usually one or two-room houses. A typical compound comprises the entrance to the compound, the *obi* (meeting place and ritual altar location), the house of the family head, wives' houses, kitchen, toilet, bathroom, and sheds for domestic animals. The walls are constructed of puddled mud that is often reinforced with wattle or lashed palm midribs. The building earth commonly found in Igbo land is loam which in its best form is clay-like and viscous. The loam in most locations is usually grey in colour and so weak that it cannot be used as walling material without an inner reinforcement of wattle. Excellent hardwoods grow luxuriantly in the rain forests and these serve for use as beams and posts. Various species of palm trees provide fronds for roof thatches and their trunks are used for door posts.

The Ijaw people live in the river bank areas in the swampy mangrove regions in southern Nigeria. Their houses are basically rectangular in plan with walls of mangrove poles and are usually raised on stilts. The walls are sometimes built with

palm midribs or planks and with the interstices filled with mud. Palm mats are used in roofing the houses that are often divided into two or three rooms internally.

The guinea savannah is inhabited by the Tiv, Nupe, Gwari, Jukun, Idoma and others of similar culture. Rainfall in the region is sparse. The consequence of this is a drier climate than the equatorial hot-wet climate with less luxuriant vegetation of tall grasses and short trees. Houses are built in clusters within a surrounding fence, hedge or wall. The house form is usually of circular plan, free standing, with the diameter of the building equal to or greater than its height. Verandahs running round them are common features of such buildings. Walls are built of mud and interesting shapes are ingeniously built, examples of which are the mousgum shell houses of the Tiv, often described as roofs without walls. The walls are reinforced with wattle while bamboo and palm fronds are also used for construction. Thatch is used for roofing that is often conical in convex or concave profile.

The semi-arid region experiences very little rainfall that however comes in a few storm. The climate is characterized by bright sunshine and high temperature range consequent upon the incidence of very hot afternoons and cold nights. This region is the home of the Hausa, Fulani, Kanuri and other related tribes in the far North of Nigeria. As it is the case with all the other sub-regions, house forms are products of a wide variety of economic, social, political, and technological factors. They are physical reflections of the way of life of the people and a generalized solution to their problems of habitation. The commonest type of house form is the round hut with thatched roof or flat tops. Homesteads are built as compounds that are commonly divided into two; the inner women restricted area and the outer male visitor reception area. The division is informed by the need for separation between the two sexes as required in Islam. Reception rooms are usually provided in the outer

area while they serve as elements of security in Hausa traditional architecture. The family head has his bedroom and living room strategically located close to the entrance. The buildings most often face the east and that could be attributed to the influence of Islam (facing the *Ka'aba* in Mecca). Consequently, the frontages of buildings become relaxation arenas in the evenings and they are well shaded from the setting sun. Walls are built of vegetable materials, mud bricks, or mud reinforced with beams split from the *deleb* palm. Pear-shaped mud bricks are the most common materials. Mud is particularly suited to the climate because of its thermal properties. The Hausas have developed the art of texturing the surface of mud walls because of their mastery, and fond for ornamentation. The beauty in mud construction is highly exhibited in these buildings. Native builders have also developed what has come to be termed the Hausa Vault in mud construction. Mud roofs (flat or domed) are built depending on the amount of rain experienced in a particular location. In the northern parts where there is scanty rain (Kano, Katsina, Daura, Sokoto), flat roofs are common, while in places with heavier rainfalls as in Zaria, dome-shaped mud roofs are built (Olotuah *et al.*, 2018).

## **2.16 Cross-cultural Experiences and Emerging House Forms in Nigeria**

Nigerians have experienced first-hand contacts with the outside world with tell-tale consequences on their traditional house forms in the last one hundred years or more. White explorers, missionaries, the colonialists, and the returnee freed slaves constituted the early contacts with the southerners from which assimilation of alien culture began. The Trans - Saharan trade and the Islamic jihad constitute the genesis of cultural adaptation in the north. Islam has however assisted significantly in establishing traditional house forms prevalent in the northern part of Nigeria.

Cross-cultural influences in Hausa cities began to affect traditional house forms with the coming of the Syrian and Lebanese settlers. Their house forms have been adopted by the generality of the people in preference to the traditional house types. Indigenous builders have come to learn the alien designs that are repeated everywhere in the cities. The buildings are symmetrical in design with an entrance porch in the middle. Bedrooms and toilets are arranged on either sides of a hall with a living room in the middle and the kitchen at the tail end of the hall.

External staircases are provided for storey buildings. The Nigerian colonial experience provided substantial opportunity for acculturation that manifests in the changes obvious in the built environment. In the government residential areas (GRAs), buildings of western trend dominate the scenery. Most of the buildings are in the British colonial style. The designs were initially brought from Britain for implementation in Nigeria to house the colonialists. The buildings are characterized by wide-glazed windows, wide porches, and verandahs (or balconies). They also have small-sized rooms, fire places (hearth), chimneys, and tall clay-tiled roofing. They are usually designed for small nuclear families. The buildings are located on large expanse of land, fenced in, with boys' quarters at the rear, backing the house. With the spread of western education and re-orientation of social norms and values, the house type has been well received by the populace and adopted especially by the well-to-do as the ideal house form. It is the second most dominating form in most Hausa cities. The buildings are built with sandcrete blocks rather than mud bricks as in traditional architecture. In villages and small towns where traditional house forms still exist, changes are apparent in materials of construction, as thatch roof is almost non-existent. Corrugated iron sheets have gradually replaced thatch. They are fire-proof making the buildings much safer but are difficult in roofing circular buildings.

Thus, circular buildings are gradually giving way to rectangular ones. Traditional moulded decorations on clay walls have been replaced with painted decoration of figurative patterns done in paints. Even in the cities, surface decorations have changed from the old patterns as they are quite open to variations. Existing traditional house forms are adorned with elaborate moulded designs. These are executed in cement often in figurative patterns in complete contrast to the old non-figurative ones.

In the southern part of Nigeria, the coming of the colonialists and missionaries brought sweeping changes in the traditional life and culture of the people. The contact with the British resulted in the change in the economic, political and social conditions of the people giving rise to new lifestyle, new social orientation, and architectural needs. The earliest impact of the contact with the whites is in the change in materials of construction. Thatch roofs require frequent maintenance and are prone to fire disasters. Houses of missionaries were roofed with corrugated iron sheets that they brought into the country. The people soon adopted this practice. By 1920, virtually all buildings with thatch roof in Ibadan had been re-roofed with corrugated iron sheets (Schwerdtfeger, 1982).

The missionaries introduced western education. The influence of western education vis-a-vis Christianity profoundly altered the lifestyle of the people. The people gradually adopted nuclear family habitation, which is a cultural trait of the English. Homesteads which house single households began to emerge in Yoruba land while traditional buildings still house several patrilineally-related families. Houses were designed in the style of the British colonial buildings. Since those buildings did not have courtyards, emerging house forms also excluded them. Chimneys were to be found, in the buildings, located above the kitchens, as was in the colonial buildings.

Mud construction began to wane with the introduction of sandcrete blocks into the country. The return of freed slaves to the western coast of Nigeria also influenced the acculturation of the Yoruba and affected their house forms. The returnee slaves brought with them their building experience from Latin/South America where they had emigrated. This resulted in the emergence of the new house form commonly referred to as Brazilian architecture. This is characterised by masterful ornamentation of building elements such as the balustrade, columns, architectural mouldings, and wrought iron gates. The buildings had no courtyards but rather a common hall onto which all rooms open as in the smaller traditional Yoruba house type. The influence of Brazilian architecture is felt in Yoruba land as elements of it are entrenched in traditional and emerging house forms. Western education has taken deep roots in Nigeria and with it the adoption of western civilisation and culture. In this regard, the advent of modern architecture in Nigeria has been significant. Its major contributions are the introduction of new materials of construction such as glass, steel, and concrete, greater range of technological possibilities, and new concepts of organisation and use of space.

Post-modern classicism has dominated the architectural scenery in Nigeria, albeit superficially, as in the use of Greco-Roman orders and triangular pediments of classical architraves. This has put paid to the use of caryatids in Yoruba housing as houses, even in the rural areas, are decorated with Greco-Roman (doric and ionic) orders that are often incompetently done. The consequence of this is the appearance of strange house forms dotting the landscape mostly in the urban centres, and rare occurrence of modern buildings in traditional forms (Olotuah *et al.*, 2018).

## **2.17 Classification of Traditional House Forms in Nigeria**

The traditional house form of any place or group of people is an architectural representative of such group. It should be able to convey the message of the cultural heritage and identity of the people, suitable for their environment and climate, compatible with their socio-economic life style. House Form is not only the form of individual buildings but also the way they are arranged (Denyer, 1978). The two major house forms are the rectilinear and curvilinear house forms. Most of the other house forms are derivatives of these two. The ultimate physical forms of traditional houses have been generated by a broad range of ideas and values (Denyer, 1978).

### **2.17.1 *The Rectilinear House Form***

The basic shape is a square or rectangular plan. Walls are of mud bricks or puddled mud, and roof could either be of reinforced mud or thatch. The mud roofed rectilinear house form is part of the Sudanese Style that is predominant in the Western Sudan. Many theories that associate its origins in the Western Sudan to the influence of Islam have been propounded (Prussin, 1970). Others like Engestrom's suggested that this form predated Islam in the Western Sudan (Denyer, 1978). Whatever the origin, in Hausa land, this house form is unique in that it has some features that set it apart from the general characteristics that define the Sudanese Style. The basic module is a rectangular or square plan. It is built with bricks and has slanted wall at the exterior that are narrow at the top and broad at the base, giving it a rough triangular configuration in cross-section. This configuration gives it added structural stability. Roofs could be either flat or domed (vaulted) (See Fig. 2.26). In the Savannah, this house form is most common among the Hausa people (Danjuma, 1988).

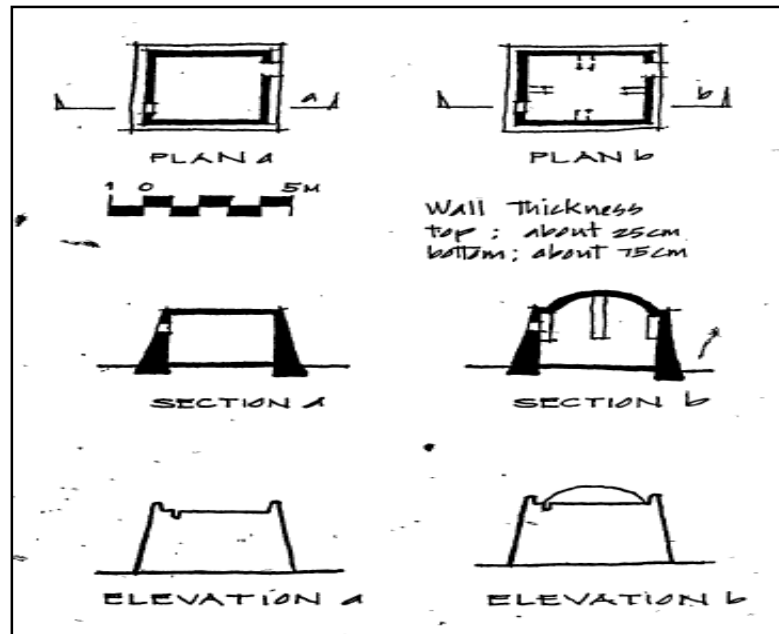


Fig 2.26: The Mud Roofed Rectilinear House Form: a – Flat Roof,  
b – Doomed Roof.  
Source: Danjuma (1988).

The thatch roofed rectilinear form, like the mud roofed structure is also a square or rectangular plan built with bricks or built monolithically. Roofs are of grass thatched over a framework of wooden support. This house form is common in many parts of the Savannah. Basic variations are of the hipped roof type as found among the Katab, and the pitched roof type as found among the Kadara, both being in the Southern Zaria region. The origins of this form are difficult to determine precisely, but it has been suggested that development in the Southern Zaria region may be due to Hausa influence (See Figures 2.27 and 2.28) (Woodford, 1974).



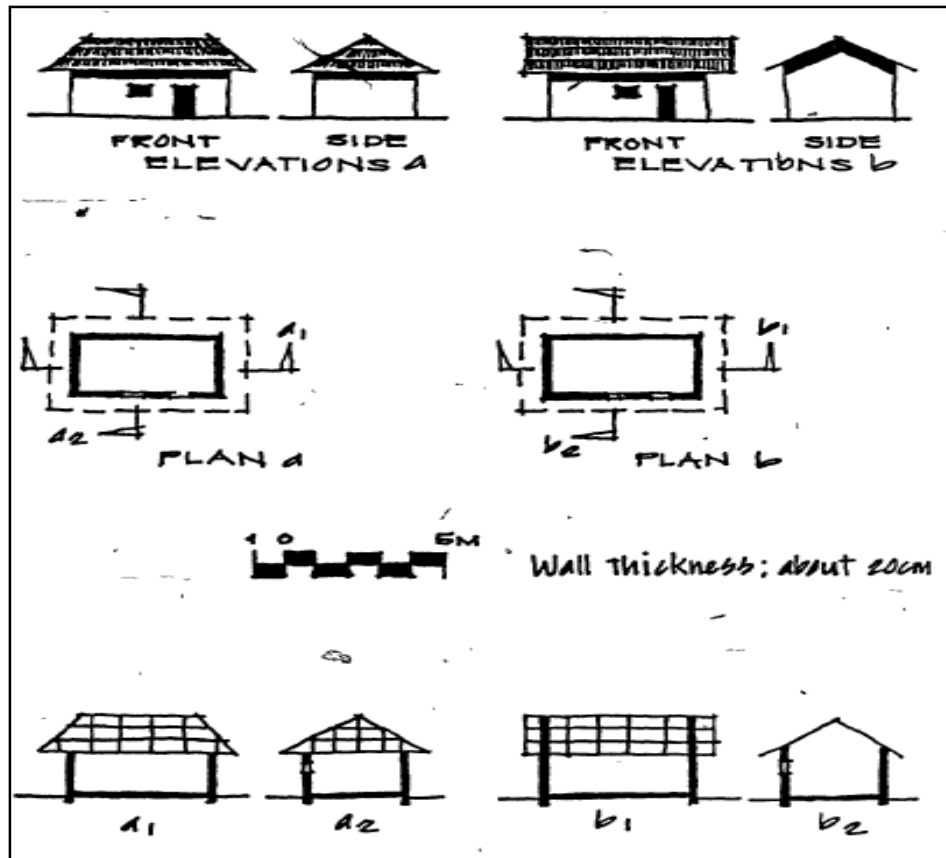


Fig 2.27: The Thatch Roofed Rectilinear House Form: a – hipped, b – pitched.  
Source: Danjuma (1988).

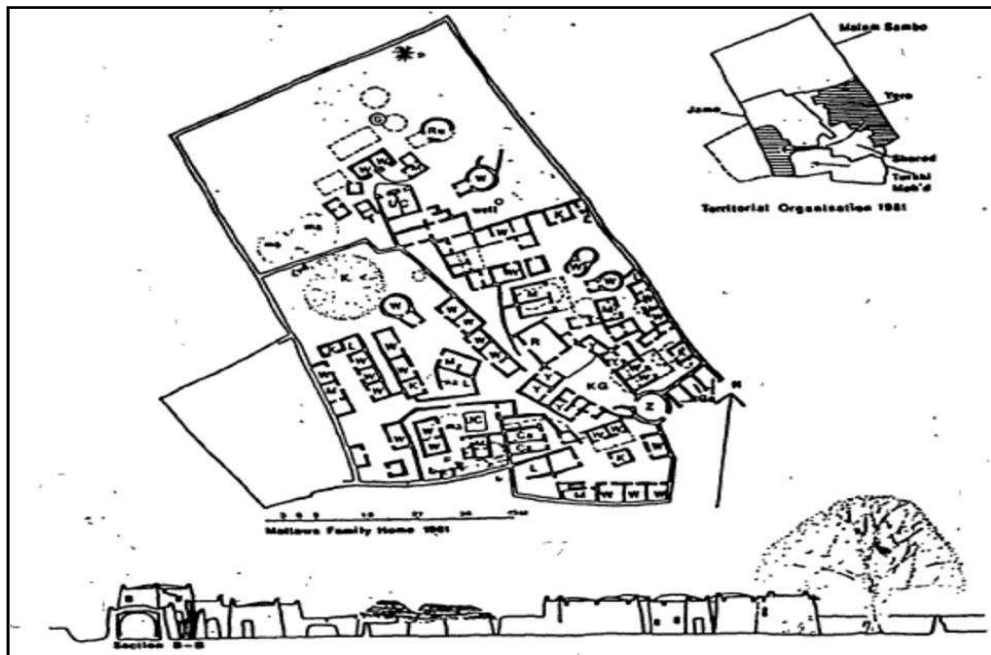


Fig 2.28: Typical Spatial Arrangement of Rectilinear House Form:  
Mallawa Home, Zaria, 1982.  
Source: Moughtin (1958).

### 2.17.2 The Curvilinear House Form

The basic module is a curvilinear plan. There are several variations; Circular Curvilinear (variation A), Circular Curvilinear (variation B); the Elliptical Form, and the Conical Form (Danjuma, 1988). The variation 'A' of the circular curvilinear form has a circular plan with its diameter equal to or greater than its height. Walls are built with reinforced mud bricks or monolithically in horizontal courses with puddled mud. Walls could also be of vegetable materials; palm fronds, bamboo fronds or grass, woven together and supported by vertical wooden members. Roofs are conical in shape and are thatched in rings. Sometimes verandas are present. The buildings are arranged in clusters surrounded by a compound wall. One interesting sub-variation is a combination of two modules. This house form is common among the Nupe, Jukun, Tiv, Idoma, Igala, and surrounding ethnic groups. (See Figures 2.29, 2.30, 2.31, 2.32, 2.33 and 2.34) (Danjuma, 1988).

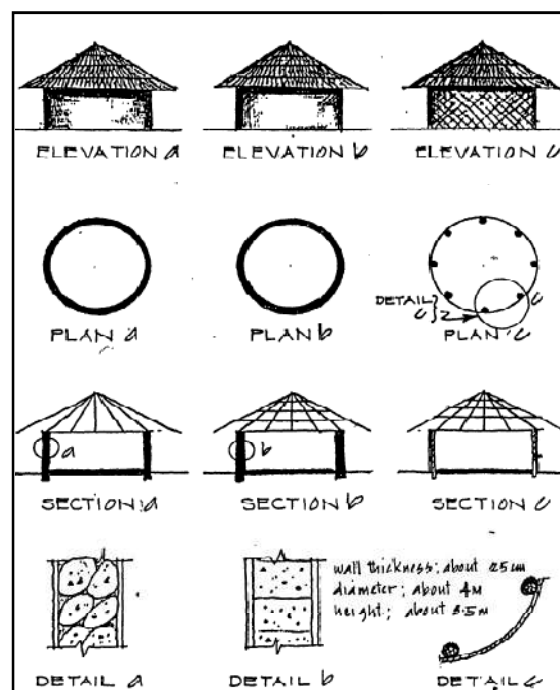


Fig 2.29: The Circular Curvilinear House Form (Variation A) with Basic Sub-Variations: a – Brick Walls, b – Monolithic Walls and c – Walls of Vegetable Materials.

Source: Danjuma (1988).

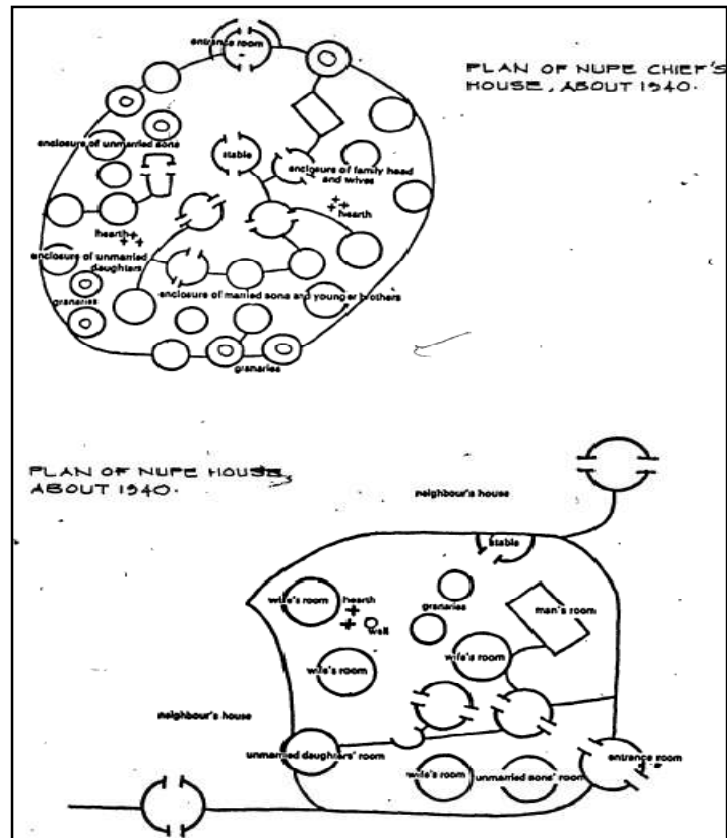


Fig 2.30: Typical Spatial Arrangement of Circular Curvilinear House Form: Variation A.  
Source: Denyer (1978).

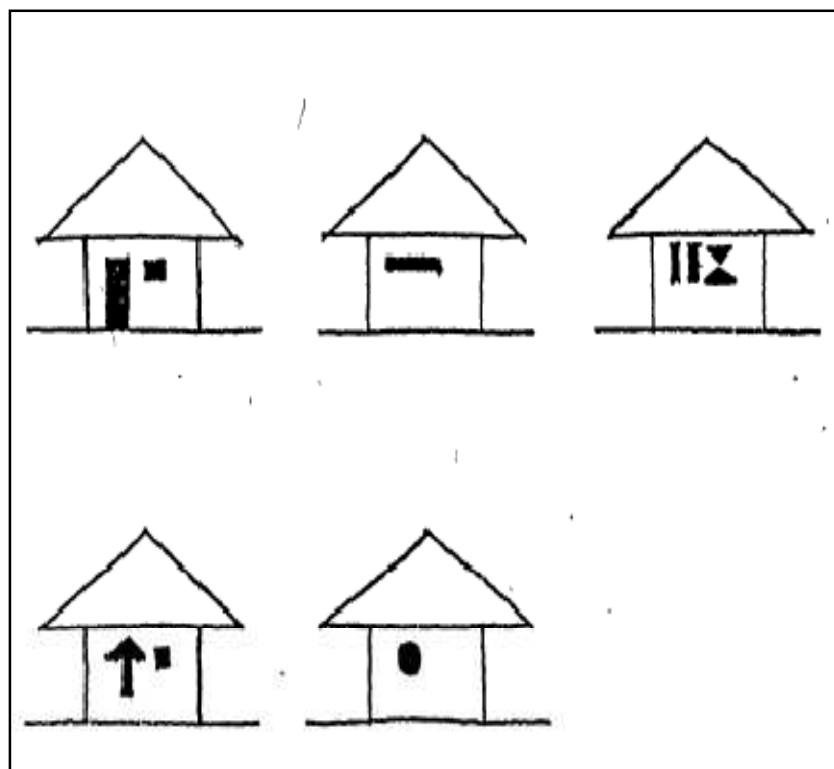


Fig 2.31: The Circular Curvilinear House Form: Wall Openings and Perforations.  
Source: Danjuma (1988).

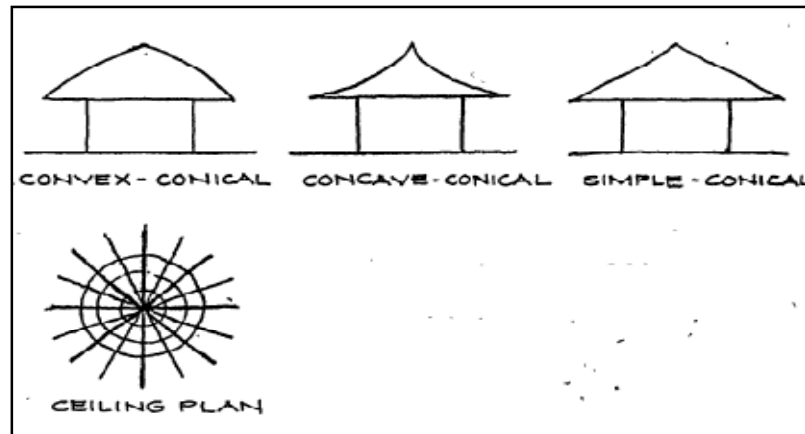


Fig 2.32: The Circular Curvilinear House Form: Roof Shapes.  
Source: Danjuma (1988).

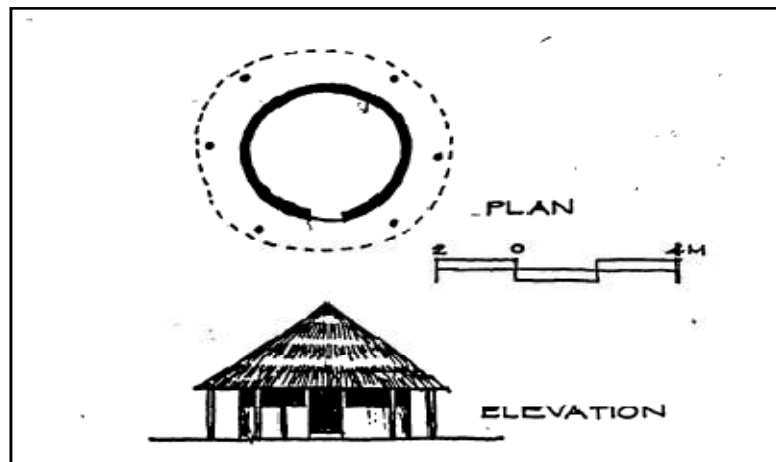


Fig 2.33: The Circular Curvilinear House Form: Variation with Veranda.  
Source: Danjuma (1988).

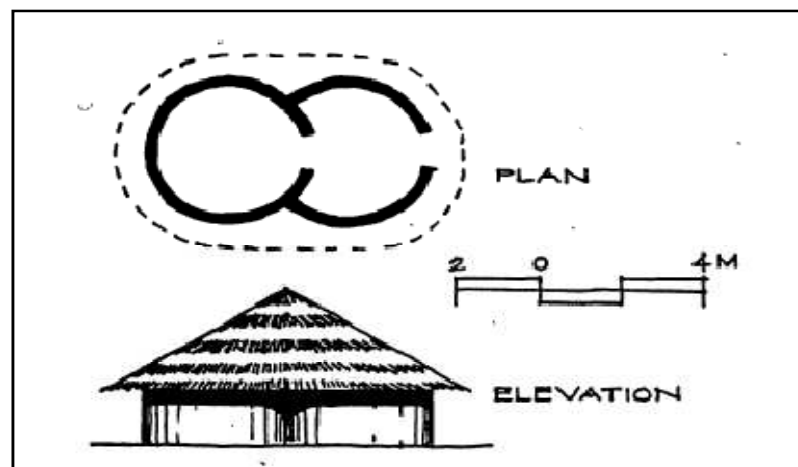


Fig 2.34: The Circular Curvilinear House Form: Variation with Double Unit.  
Source: Danjuma (1988).

The Variation 'B' of the circular curvilinear house form also has a circular plan but the diameter is generally less than height, walls are of mud and of stones. Roofs are of thatch, covering a framework of wooden supports or covering mud domes. The roof shape is conical. The buildings are free standing and usually enclosed in compounds. This house form can be found mainly in the hilly regions of the Savannah, and some authors have classified it as the Hill Style. This house form is common among the Rukuba, Angas, Ron, Birom, and others (See Figures 2.35 and 2.36) (Denyer, 1978).

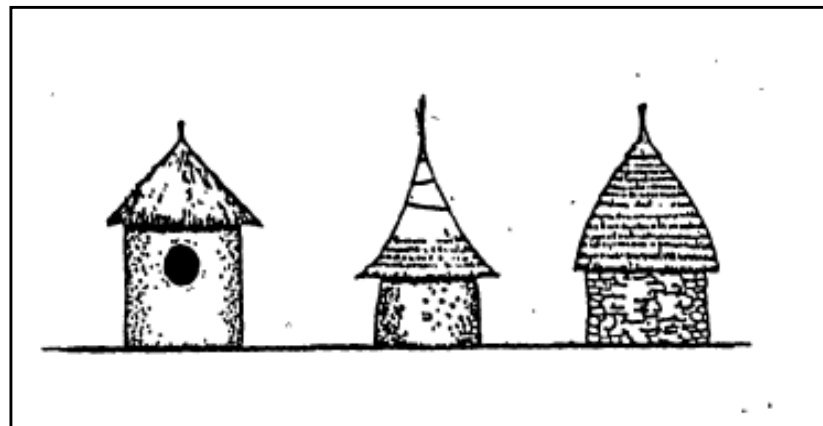


Fig 2.35: The Circular Curvilinear House Form: Variation B.  
Source: Denyer (1978).

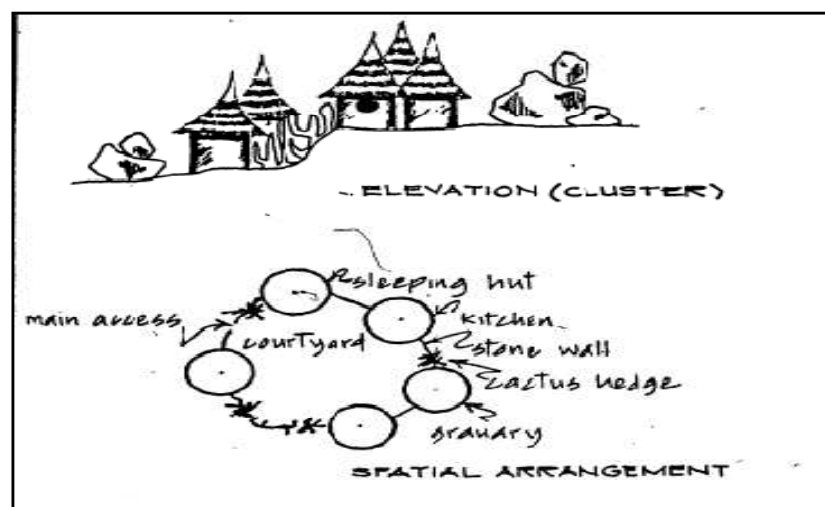


Fig 2.36: The Circular Curvilinear House Form: Variation B.  
Source: Denyer (1978).

### 2.17.3 The Elliptical House Form

The plan is elliptical, and the building is free standing and has an asymmetrical peaked thatched roof supported by a conical mud pillar and mud arch (See Fig. 2.37). Walls are of mud and wattle (Denyer, 1978). Ethnic groups among which this house form is common are the Jaba, Katab, Ikulu, and Irigwe. Among the Irigwe, the buildings are a slight variation to the form described above. The plan shape is different but the structural configuration and roof shape is the same (Sangree, 1977). Also among the Irigwe, these structures are used as shrine houses, but they are located within the compound, therefore they are an integral part of the house (Figures 2.38 and 2.39) (Danjuma, 1988).

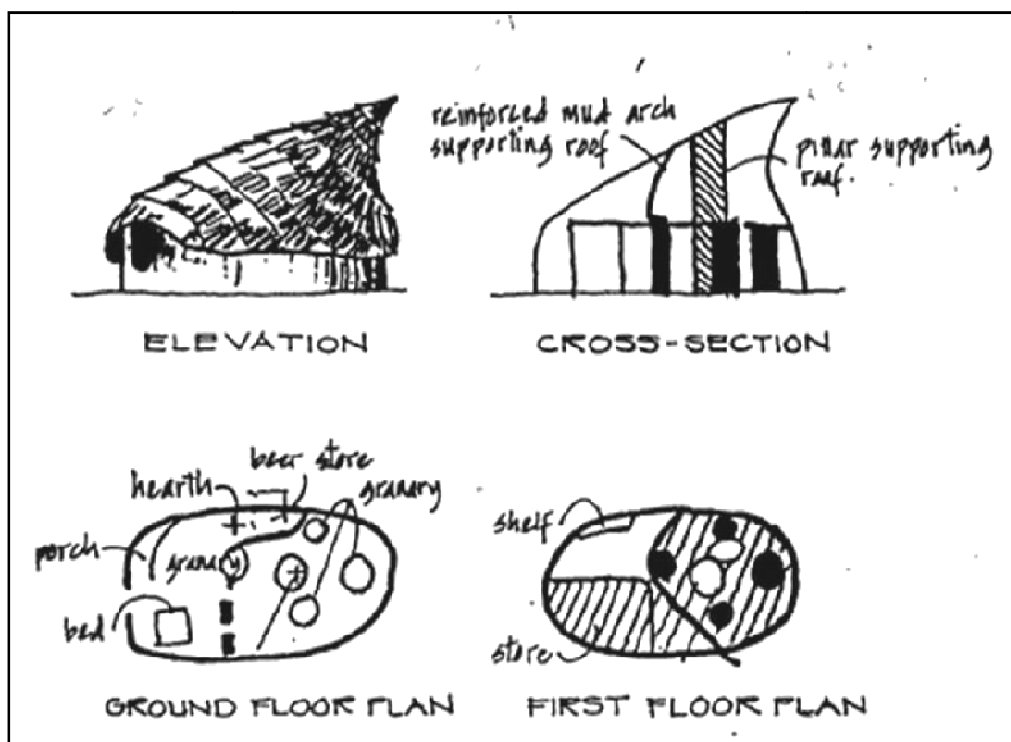


Fig 2.37: The Elliptical House Form.  
Source: Denyer (1978).

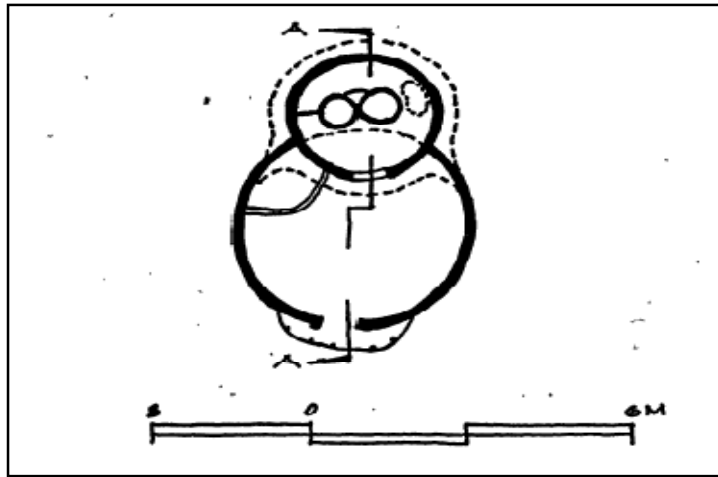


Fig 2.38: The Irigwe Shrine House: Ground Plan.  
Source: Sangree (1977).

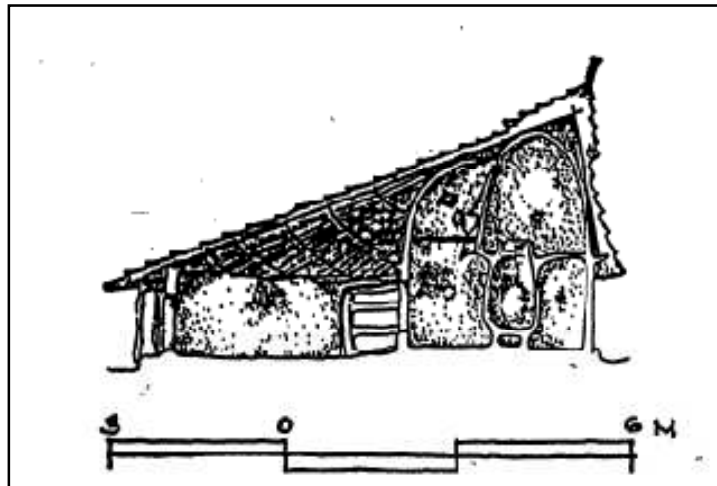


Fig 2.39: The Irigwe Shrine House: Section A-A.  
Source: Sangree (1977).

#### **2.17.4 The Conical Form**

The plan shape is circular and the structure is free standing. Variations range from the conical roofed type with no walls (See Fig. 2.40), to the beehive type that sometimes has a low perimeter wall (See Fig. 2.41). The former has a framework of straight guinea corn stalks or bamboo, and is sometimes thatched (Denyer, 1978). The latter has a framework of flexible poles embedded in the ground at the base and

tied at the top under tension. It usually has a slight convex profile. The thatch could be either stepped or plain and sometimes has a central support (Danjuma, 1988).

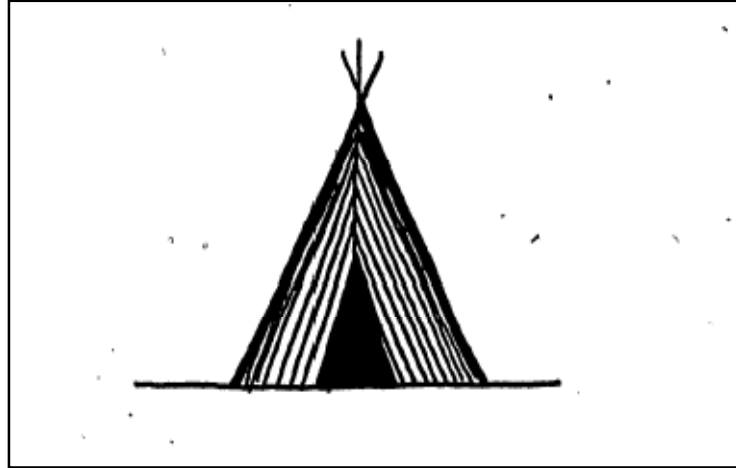


Fig 2.40: Conical House Form: No Wall  
Source: Danjuma (1988).

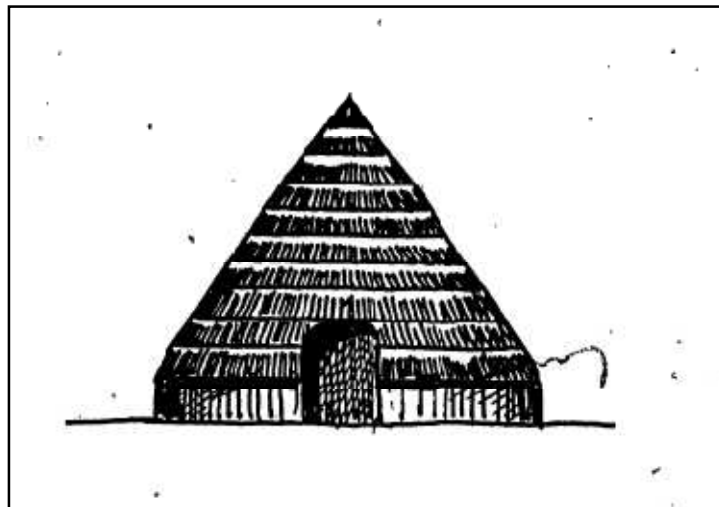


Fig 2.41: Conical House Form (Beehive Type)  
Source: Danjuma (1988).

## 2.18 House Forms in the Different Regions of Nigeria

Different traditional house forms are identified with different regions in Nigeria. These house forms are the resultant effects of the quest for a rational abode for man as influenced by culture, religion, climate, urbanization, and recently, professionalism (Rikko & Gwatau, 2011).



A building is a dwelling house not because of its size, shape, appearance, location or material components but because of the purpose which include among other things day-to-day activities of the inhabitants; resting, sleeping and family gathering. Grimes (1976) postulated that housing not only provides shelter for a family but also serves as a centre for its total residential environment, as a focus of economic activities, as a symbol of achievement and social acceptance and as an element of urban and income distribution. This has been largely affected by social changes particularly the shift from traditional community family values to western ways of life. In view of the aforementioned observations, the various house forms prominent in Nigeria urban centres can be discussed under the traditional architecture with varying characteristics from one region to another. Traditional architecture is quite different from indigenous architecture.

That which is traditional refers to what has been handed over from generation to generation or what has come to be accepted and practiced whereas what is indigenous to a people is what has been developed by their own experience and self-expressions. This distinction is necessary because what is sometimes handed down may not have been developed from the cultural milieu of the people (Rikko & Gwatau, 2011).

#### **2.18.1 *House Form in Northern Nigeria***

In Northern Nigeria, two styles of house forms have been identified in the area of housing in the traditional setting. The first is the Hausa homestead, which is the dominant and more stable architecture. The second is the Fulani nomadic shelter, which at best can be referred to as tents. They are often constructed of impermanent materials like reeds, leafage and elephant grasses in very simple techniques due to

frequency of mobility with change in seasons (Hussaini, 1999). The house form has been influenced by climatic, religious and socio-cultural factors of the environment. According to Friedrich (1982), Islam had no doubt some influence on the layout of compounds particularly in the urban areas of Hausa land. He argued that the courtyard house thus, identified with this house form regarded today as almost synonymous with the “Muslim house” was in existence long before Islam made its appearance on the Arabian Peninsula in the 7th Century AD. Other non-religious factors such as building materials, techniques and skills available to communities, their need for security, and scarcity of land especially in urban centres have contributed to the final shape of these courtyard houses (Rikko & Gwatau, 2011).

#### ***2.18.2 House Form in the Middle Belt***

In the Middle Belt, the house forms are comprised of the traditional architecture of the Tivs, Igalas, the Taroks, Beroms, Ngas, Kutep, the Bajus, to mention a few. The various house forms in this belt seemingly have common features in their curvilinear house forms but noticeable differences in their housing pattern specifically in compound setting and techniques of construction. The middle belt house plan generally assumes a concentric pattern and the outer ring forms the base for the load bearing timber columns, while the inner circle is for the walls. In a nutshell, the general house form for the middle belt architecture has been influenced by external factors as has been noticed with modern trend recently. The new trend according to Agida and Awotona (1986) is the rectilinear form, an imitation of colonial buildings such as the Churches, Clinics, Court Houses and Residences. The rectangular form is thus, associated with modernism, which has given rise to two housing forms as can be seen in the region today. First, the curvilinear plan, free standing, walled with mud, thatched roof, and arrangement in cluster of buildings around a compound and

secondly, there is a rectilinear plan, free standing, and hipped roof, with walls of mud. This also could form a cluster of arrangement of dwelling units around a courtyard. In this region, according to Awotona (1986), there is decrease in wind strength, an increase in rainfall and fairly thicker vegetation when compared to the North (Rikko & Gwatau, 2011).

### **2.18.3 *House Form in Western Nigeria***

The house forms in Western Nigeria comprise the architecture of the Yoruba and Benin traditional buildings. According to Awotona (1986), the Yoruba and the Benin housing forms have a lot in common; the construction materials, courtyard, impluvium and so on. The noticeable house form in this region is rectilinear which incorporates courtyards for every family set up. Friedrich (1986) observed that most Yoruba traditional compounds are built around a central hall or corridor to accommodate a plurality of polygamous families linked together by agnatic relations of senior male members. Every compound tended to show an identical basic form and framework being based on set of adult males whose common agnatic decent furnished their inner organization and moral unity (Rikko & Gwatau, 2011).

### **2.18.4 *House Form in Eastern Nigeria***

The building construction of the Igbo community is as diverse as other parts of their culture. Most Igbo houses were private houses built alongside other buildings in a family compound enclosed by a large wall. According to Chukwu (2015), the main materials used in building Igbo houses include mud, timber and raffia/palm stems which are used for walls and roofs.

In the eastern part of Nigeria where the Igbos are dominant tribe, only a few architectural features can be accepted as typical for the entire Igbo land; The

rectangular plan of dwellings, which are without windows, the veranda in front of the houses and universal use of the forked posts to carry the roofs (Dmochowski, 1990). Apart from dwelling, other common features of Igbo architecture as observed by Dmochowski (1990) were massive compound gates, meeting houses, shrines and two or three storey semi-defensive buildings called *ObunaEnu*. Each compound is fenced with only one entrance and exit. There are roofs made with such exquisite skill that their texture of palm ribs and grasses serves by itself as an architectural adornment. Various rooms, stores and a kitchen normally surround the impluvium. Normally, the men's section is separated from the women and children section is grouped together. The materials for construction used in Igbo land are mud, hardwood timber, palm leaves and midribs, bush twines and pawpaw trunks for constructing a drain for the impluvium (Rikko & Gwatau, 2011).

## **2.19 Transformation of Traditional Architecture in Nigeria**

In the context of this research, transformation in traditional architecture refers to the evolutionary changes that have taken place in the terms of spatial arrangement, forms, construction techniques, the use of materials as well as the use of space. Research has shown that the African society has continued to witness transformation in all areas. For examples, in our political life, African traditional political leaders no longer follow religiously, the laid down rules and ritual practices that guide their offices because of their contact with the west and this caused serious problems among the so called His Royal Majesties (HRM). According to Ugwu (2002), "the king is brainwashed and indoctrinated into accepting that rulership has no meaning here on earth and that nobody rules except God." There is also transformation in the pattern of dress and dressing style as both children and adults now wear western dresses at the expense of local made dresses. The pattern of greeting is not left out as

the traditional Africans way of greeting where the younger ones bow or prostrate while greeting the elderly has now been replaced with the practice where younger prefer to wave hands and to say” hi.” to the elderly persons. Similarly, the occupation of Africans is no longer the usual farming work of cultivation of crops, hunting and rearing of animals as a majority of Africans now prefer white-collar jobs in the urban areas. The design and construction of houses have also experienced some changes over the years. In fact, it is only in the most remote parts of Nigeria today that one can still see people building houses with sticks, red sand and roofing their houses or huts with elephant grass and palm fronds as against sandcrete blocks cement and corrugated iron and aluminum roofing sheets (Ugwu, 2002).

As it relates to transformation in the traditional architecture, Gardi (1973) asserted that architecture is a cultural phenomenon and culture is dynamic; as such it follows that architecture in response to man’s ever changing socio-economic and cultural situation is dynamic as well, hence the transformation from traditional architecture to contemporary architecture. According to Umoh (2016), scholars in architecture and related disciplines should embark on research in order to establish the historical architectural movements in Nigeria with respect to the following: (1) traditional architecture (2) colonial architecture (3) flat roof (post-civil war period) architecture and (4) Brazilian architecture.

Following from this, a number of studies have been done to investigate and document the nature of transformation that has taken place in the traditional architecture of the various ethnic groups and the drivers of the transformation in Nigeria. For examples, Umar (2017) revealed that the Hausa traditional architecture has witnessed transformation in geometric shape, and form, planning concept,

building materials and construction methods. This transformation was attributed to some factors, including socio-economic factors of income, inheritance, western education, marriage, and development of new materials. Similarly, Bert-Okonkwor, Nzewi and Okolie (2017) reported that the Igbo traditional architecture has also undergone some changes from the olden day mud and thatch houses to the modern day houses made from bricks, blocks, cement and concrete. These authors further explained that in the colonial and post-colonial periods, environmental and other social factors also played major role in the transformation that occurred in traditional Igbo architecture but the colonial influence typified by the western architectural designs played a dominant role in determining and shaping Igbo traditional architecture. Chukwu (2015) however observed that despite the incursions of the western building designs in Igbo land, the traditional Igbo architecture is still found in many communities for certain categories of people due to conduciveness and appropriateness to the environmental conditions of the area, its low cost advantage and easy availability of the materials for its construction.

Jolaoso, Mai, Umaru and Bello (2019) carried out an evaluation of vanishing features of Yoruba traditional residential Architecture in the 21<sup>st</sup> century and reported that Yoruba traditional architecture has witnessed changes in the creation of space and place for domestic affairs, crafts, ceremonies and entertainment, and that there was disappearing of the traditional heritage/cultural character in the architecture of Yoruba residential buildings. They however noted that although these changes have affected the layout-planning and building designs, and the technical know-how of how to develop and use local materials to meet current needs, the courtyard feature of Yoruba traditional architecture has survived the transformational phases. Again, socio-cultural infiltration, acculturation, formal development control,

nature of existing building, practice of self-help housing approach, growing economic interest from rental income, flair for foreign taste/materials and technology were identified as main factors responsible for the transformation in the Yoruba traditional domestic architecture. In the same vein, Ekhaese *et al.* (2015) noted that the transformation process of the Benin domestic architecture goes beyond simply changes in space arrangement but include the interaction between the spaces and its activities within the domestic environment that can define the new spaces. They attributed this transformation to factors such as climate change, technological development, socio-economic and socio-political characteristics of the people.

The foregoing review shows that there has been a significant change in the traditional architecture of the major ethnic groups in Nigeria, and thus, it is expected that the same transformation has taken place in the Igala traditional architecture. This is one aspect of the gap in the literature that this study sought to address.

## **2.20 Factors Responsible for the Transformation in Traditional Architecture in Nigeria**

From the review of literature, several factors have been identified are; economic, social, environmental factor and foreign influence as the main drivers of transformation of the traditional architecture of the different ethnic groups in Nigeria (see Ekhaese *et al.*, 2015; Chukwu, 2015; Umar, 2017; Bert-Okonkwor *et al.* 2017; Jolaoso *et al.*, 2019). However, the following factors have featured prominently in several other studies as being responsible for the transformation of traditional architecture in Nigeria. These factors are discussed in the next paragraphs.

### **i. *Slave Trade***

In Africa, traditional architecture has transformed significantly over time due to the effect of slave trade and colonization. Apart from the direct intervention of the British in Nigeria in terms of imposing their own architecture, they were also responsible for creating the enabling environment for other influences to come into play. The abolition of slave trade in the 17<sup>th</sup> century brought to Nigeria a style of architecture referred to as 'Brazilian Architecture' in the South West zone. Slaves that were repatriated from South (Latin) America after the abolition introduced the Brazilian style of architecture in Lagos, Nigeria. According to Sa'ad (1996), these houses contain some formal and symbolic characteristics acquired as a result of complete cultural synthesis. Vlach (1984) stated that the Yorubas changed their houses, but they changed them in a way that made an imported design profoundly their own. Marafatto (1983) in his 'Nigerian Brazilian Houses' stated that original Portuguese functional stylistic concepts were modified in Brazil before importation to West Africa. According to Marafatto (1983), the Yoruba conception of spatial relationship linked to the traditional family organization were added to the imported architectural style to create a new model of residential architecture known as the Nigerian Brazilian House. In other words, the formal symbolic elements of the Nigerian Brazilian House are derived from Portuguese colonial residences in Brazil, while the spatial organizational structure originates from the typical Yoruba compound (*agbo-ile*). Further, Marafatto (1983) identified five prototypes of Brazilian residences in Lagos but these were grouped into three models as explained by Sa'ad (1996) and (Nduka, 2013). The first model is a detached house on one floor with no upper stories (bungalow). This house derives directly from its Brazilian ancestor. About six to eight rooms are symmetrically arranged on both sides of a



central corridor-cum-living room (See Fig. 2.42). This central space is used for most collective domestic activities just like the inner courtyard of the traditional Yoruba ‘agbo-ile’. Some other activities could take place outside this space if the building has a fence wall at the back of the enclosed yard (Nduka, 2013).



Figure 2.42: Model 1 Brazilian Style: It Features an Attic and Stucco Ornamentation in its General Configuration, Located in Lagos.  
Source: Osasona (2000).

The second model of Nigerian Brazilian house is on two or more floors (stories) (See Fig. 2.43). According to Sa’ad (1996), this vertical development is derived directly from the Brazilian ‘sobrado’ concept. The floors are linked vertically by one or two stairs located at one or both ends of the central corridor, depending on the size of the dwelling. The main entrance is symmetrically placed in relation to the façade of the building. The spaces for the productive activities like retail and wholesale trading are close to the façade (front) while domestic activities like cooking and washing/bathing are located at the back on the ground floor. The upper floor serves as the residential quarters of the head of the household and all the rooms face the corridor which functions purely as the passage way on this level (Nduka, 2013).



Figure 2.43: Model 2 Brazilian Style Located at Ipetumodu.  
Source: Osasona (2000).

The third model according to Sa'ad (1996) is also on two or more floors with an external gallery and staircase, and a portico at the road level. The spatial concept is different in that the passages are kept separate from other elements of the dwelling by putting them in direct relationship with the outside. The internal spatial organization is however, similar to that of the previous models. The rooms for the wives and children together with the services are on the ground floor, while the domain of the head of the family is on the first floor. Sa'ad (1996) further observed that this type of residence often exhibits a great quantity of stylistic decorative elements of Brazilian origin such as banisters, small pillars, wooden balconies, embellished perforated verandas, decorated architrave, columns and window hoods.

The basic elements that distinguish the Nigerian Brazilian House from other residential buildings in Lagos and environs are the style of their windows, ribbed pillars, stuccos and grating that are traceable to baroque aesthetics of Brazilian colonial style (See Fig. 2.44) (Nduka, 2013).



Figure 2.44: Model 2 Brazilian Style Located at Ile Ife.  
Source: Osasona (2000).

Famous examples of Nigerian Brazilian Houses in Lagos are under protection by the National Commission for Museum and Monuments for the historical or aesthetic significance. They include the Fernando House at Tinubu Square (Ijolo Bar), Oba of Lagos Palace, Water House of Kakawa Street and the Old Secretariat on Marina with certain baroque features, which blend well with the Brazilian architecture in Lagos (Nduka, 2013).

Also, of particular note are the building activities of the *Agudas* (also termed *emancipados*) and the *Saros* of Lagos, two distinct socio-cultural groups of returnee slaves to Nigeria, whose advent was facilitated by the British, in the wake of their abolition of the slave trade. Both groups had distinct “quarters” in Lagos (Akinsemoyin & Vaughan-Richards, 1976).

The *Agudas*, repatriates from South America (notably Brazil), were “master craftsmen who used their creative abilities to proliferate the ornate Afro-Brazilian style, of Portuguese antecedents” (Osasona, 2006:14). The so-called Afro-Brazilian architectural style is characterized by multiple storeys (which could be as many as

three main), an attic, a double-loaded exaggerated corridor (*passagio*), porches/loggias and copious sculpted ornamentation (Marafatto, 1983). The architectural embellishment affects stucco-work (expressed as mouldings around window-openings and portals, quoins, plinths, column capitals, shafts and bases, and relief murals), as well as woodwork (generating carved balusters and door panels). They were mostly Catholics (*aguda* being colloquial Yoruba for Catholic), and a lot of their creative energy was directed to the construction of Churches, in the Gothic revival style, as well as stately mansions for well-to-do merchants in Lagos.

The Saros were former slaves who had been repatriated to Freetown in Sierra Leone, and whose emigration to Lagos had been facilitated by the British. They were renowned merchants, specializing in two-storey structures with living quarters on the first floor, and retail/wholesale outlets and administrative spaces on the ground floor (Osasona, 2006: 21). They were particularly adept at framed timber construction, with carved fascias and fretwork linking the tops of columns framing verandas. These classes of externally-conditioned African builders, in their own turn, influenced the local building practices of the Nigerian populace (Osasona, 2006).

## **ii. *Policies of the Colonial Administration***

To underpin their administration, the British colonialists needed various institutional and physical infrastructures such as; warehouses, banks, schools, hospitals, residences to mention a few, and were built. These were serviced by rail, roads, bridges, piped water, electricity and other social amenities. The architectural forms, completely different from what was on ground, were variously expressed as timber-framed buildings, masonry structures (employing either fired brick or stone), or composite construction (Osasona, 2006). These new architectural designs and forms gradually integrated into the Nigerian system. The Igbos of the South-Eastern part of

Nigeria were some of the earliest beneficiaries of the new trend, and this was easily extended to Igala land as a result of its close proximity to Igbo land.

### **iii. *Introduction of Foreign Building Design and construction materials***

Based on the misconception about the cause of malaria (Okpako: 2005: 4-5, Osasona, 2006: 13, 14, 19), single-storey buildings (bungalows) were raised above the ground, and residential buildings were well-serviced by porches and verandas, catering to the preferred forms of leisure, social exchanges, and even daily domestic routine. Two-storey construction was also an innovation promoted by the colonial building culture, producing the first of the archetype in Badagry, Lagos, in 1852 (Osasona, 2006). As storey buildings spread across the rest part of Western Nigeria, Igala land was not left out due to its close proximity to Western Nigeria across the River Niger.

Of necessity, building materials were imported from Britain. These materials consist of cement, slate roofing tiles, corrugated iron roofing sheets, processed timber and synthetic paints, among others. Local unskilled labour was harnessed to expatriate expertise, to effect these building materials. The resultant acquisition of building skills, coupled with readily-available prototypes to copy from, gradually produced a crop of local interpretations of the colonial building design particularly with respect to residences. In effect, traditional building practices became “refined” by more durable building materials and techniques, and more “sophisticated” formal expressions (Osasona, 2007). This modern trend found its way into Igala land influencing the existing traditional house form and building designs.

#### **iv.     *Introduction of Western Religion and Culture***

Igala culture, since colonialism, has experienced rapid change. The contemporary Igala culture is merely a mixture of traditional elements and alien features. Missionary expansion became largely incidental to the establishment of the colonial rule in Nigeria between 1891 and 1960. It was from 1841 to 1891 and 1900 to 1960 that missionary work had its distinctive significance in Nigeria. It was in these periods that the missionaries had a greater measure of initiative and their work had its own decisive influence on Nigerians apart from the colonial influence. Igala culture, since colonialism, has experienced rapid change. The contemporary Igala culture is merely a mixture of traditional elements and alien features. According to Okere (1996), "the Africa today is a living confluence of cultural rivers, the major rivers being, on the one hand, the traditional culture with its tributaries of religion, social structure, language, values and world view, and, on the other hand, the western culture including Christianity and Islam- with its own tributaries". This is the case with contemporary Igala religion and culture.

The introduction of Christianity and Islam in Africa marked the beginning of religious pluralism on the continent, thus putting to an end the monolatrous religious system that operated in the traditional African societies. Most of the people, for varying reasons, opted for the new religions without necessarily understanding the implications of their new choice (Chuta, 1992). But when their desires were not met, they opened up new religious sects, as off-shoots of their frustration. Hence the comment by Dale cited in Onyeidu (1999) cautioned that "A sincere man does not change his beliefs hastily". This situation undoubtedly, led to a compromise. Here, the traditional religious beliefs and practices are blended with those of the foreign religions (syncretism). Hence the emergence of independent Churches such as the

Cherubim and Seraphim, Aladura, Christ Apostolic Church to mention a few, and some engaged in herbal healing (Okeke, 1998). Writing on the level of syncretism, Leith-Ross (1939) drew attention to the case of the Igbos, who were often regarded as exemplary in the way they embraced western ways: Thus...an Igbo attends communion at the same time as he believes in the potency of traditional magic, he ties in the same handkerchief, the rosary and the traditional talisman. In the same vein, Ajayi, in Ogbu Kal (1978) wrote that an African gets himself baptized as a Christian, sends his children to school, comes to terms with modern technology by buying a lorry and learning to drive it and yet insists that the lorry is not just a mechanical device but also a force whose control properly belongs to the god of iron, whose emblem and charms he therefore, displays on the lorry. In consonance with the above, Onunwa (1990) came to the conclusion that “syncretism has been a feature of religion all through human history”. Basden cited in Onunwa (1990) in his contribution, written after over thirty-five years of missionary work, after a careful and a painstaking field work in Igbo land, made an important observation. He wrote at the close of his field research that religion, language and custom of the Igbos have been tinged with outside influence superimposed with ancient Igbo beliefs and practices. African traditional religion has a very rich cultural heritage and this rich values and virtues have sustained Africans for so many years before the advent of Islam and Christianity. Jordan (1948) noted that a whole system of taboos and ritual of ordination has controlled the entire life of Africans particularly the Igbos of South East Nigeria. These whole systems of taboos and ritual of ordination that controlled the entire life of the Igbos were expanded by Onyeidu (1999) to include: swearing of oath, making of blood pact, trial by ordeal, oracles, vows, secret societies and the meticulous observation of customs and traditions. Unfortunately, these whole

systems of taboos and rituals are no longer strictly observed because of the influences of Christian doctrines and this perhaps explains why there are so many crimes in the traditional communities today. Christianity condemned polygamy and upheld monogamy, but Africans from pre-history and timeless immemorial, had polygamy as part of their cultural heritage. The Nigerian society, for instance is an agrarian one, and there is the vast land for everybody to cultivate. The more the number of wives and children a man possessed, the greater the manpower to cultivate the arable land, and also increased the economic status of the people. In addition, they saw polygamy as an ideal way of dispensing social justice to women by providing husbands for all women. Another area that has been eroded and discarded was that of oath-taking. People now take oath according to their religious inclination and no longer on the basis of their original rich cultural heritage. This has provided room for moral decadence and other vices in our society as observed by Ugwu (1999).

The introduction of western education in Africa brought in western idea of rationalism and individualism into Africa (Chuta, 1992). Many Africans began to doubt their religious traditions, and subsequently decided to live without it, and that was the inception of secularism in Africa. This created conditions for the rise of new elites with western educational outlook in African societies, who had their own elites. Among these were chiefs, priests and war leaders, many of whom normally owed their elite status to birth (Afigbo, 1976). There in school the children acquired a whole body of new teachings, touching on all aspects of human existence, and these were openly and widely advertised as anti-theatrical to African way of life. Western education weaned African children from their control and influences of their families.



## **2.21 Theoretical framework**

Architecture, whether traditional or modern/contemporary is concerned with providing settings for people to live, work and play. This means that architecture as a problem-solving endeavour must be understood from the perspective of man-environment relations (MER). The review of literature reveals that there are several theories that have been used to explain the process of evolution and practice of any architectural style peculiar to a people. There is however a consensus among authors suggesting that both human and natural factors instigate the development of a particular architectural style. Among the theories considered appropriate for this research is environmental determinism. This was used among early academic geographers such as Carl Ritter (1779-1859), Ellsworth Huntington (1876-1947) and Ellen Churchill Semple (1863 - 1932) to explain social variation within different geographical locations, alleging that individual and natural character, culture, health, religion, economic factors and social life are all derived from environmental influences (Frenkel,1992). The proponents of this theory believe that climate and terrain are the two factors that actively shape cultures, which include type of food, clothing, religion and architecture (Stephen, 1992; Fekadu, 2014). They also argued that human responses are almost completely shaped by the physical environments producing similar culture and architecture. What this means is that the physical environment comprising of climate and terrain determines the type of architecture in a place.

The second theory considered in this research is environmental possibilism propounded by French historian Lucien Febvre (1878-1956). This theory argues that the physical environment provides people with choices in response to the opportunities and constraints provided by the environment. It sees people as the main

architects of culture and that any physical environment offers many possibilities for a culture and by extension architecture to develop (Fekadu, 2014). Hence, people make choices based on the opportunities and limitations of the physical environment. This implies that the availability of resources determines how people use them in the provision of food, shelter and clothing and other needs. As it applies to architecture, it asserts that the environment has a range of materials for building construction, but the decisions people make on how to use the materials at their disposal, rather than the physical environment itself, is what determines the trend in the evolution of culture and architecture. This theory helps to explain the current situation where there are several building materials available in the market and why people choose to build with different combination of materials based on their income, taste and location. Although environmental determinism and possibilism can help us understand the general principles applicable to any cultural-environmental situation, they cannot provide an adequate understanding of the origins of particular architectural features and patterns which characterize different areas.

The third theory is environmental probabilism, which lies between environmental determinism and possibilism. Proponents of probabilism suggests that based on the nature of the environment, humans will be more likely to make certain decisions over other ones. For instance, if forests are in relatively scarce supply, houses may be more frequently constructed from clay or stone rather than wood. Hence, probabilism attempts to explain which building material is most likely to be used in constructing houses in a particular environment. This means that the type of architecture peculiar to a place is a function of the materials available there, suggesting that people will naturally build with earth, stone and grasses where these materials are in abundance.

The last but not the least is historical ecology theory. This perspective relies on the concept of ecology to improve the understanding of the reciprocal relationship between people and environment. Historical ecology posits that landscapes, which is an integral part of architecture can be understood historically as well as ecologically (Bürgi & Gimmi, 2007; Szabo, 2015). It argues that architecture, which is an artefact of human activity, can be used to understand the evolution of culture over time, and vice versa (Szabo, 2015). One of the key tenets of the historical ecology perspective is that physical landscape and geomorphological changes are products of integration of a range of human and climate phenomena that add up to produce the architecture and landscape observed at a particular time (Bürgi & Gimmi, 2007). In applying the historical ecology theory in this research, it means that the features, values and transformation found between 1800 and 2017 in Igala land, is a product of the prevailing human and environmental factors. The human factors can be socio-cultural, economic, religious, political, and technological among others.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Preamble**

Guided by the aim and objectives, as well as the theoretical and conceptual framework already developed in Chapter 2 of this thesis, this chapter explains the procedure used in gathering and analysing the data used to address each of the research objectives and, answer the research questions. The emphasis is the discussion of the various steps taken and the logic behind the methods used in carrying out this research. In order to provide adequate information on how this research was planned and executed, this chapter discusses sundry issues related to the research design and research approach, research population and sampling techniques, determination of the sample size, data sources and design of data collection instruments, respectively. Other issues discussed include data collection, characteristics, treatment, and analysis by objectives as well as validity, reliability and ethical considerations.

#### **3.2 Research Design**

The research design adopted in this study was a combination of archival/historical and survey research designs involving the use of documents, artefacts and relics, physical observations and administration of structured questionnaire. The choice of archival research design is based on its advantages in helping the researcher to identify and interpret historic events through the collection and analysis of relevant historic documents or oral histories. It also helped the researcher to gain access to past events by interrogating and mining data and information from several sources, including documents, numerical records, oral statements, and relics. In addition,

archival research also enabled the researcher to unravel ‘*why*’ and ‘*how*’ the Igala traditional architecture evolved, reappraised its evolution and transformation in the past and thus arriving at general conclusion and providing further insight to its present and future trends in the study area. The research design became imperative because of the fact, that most human activities such as traditional housing construction process during the pre-colonial, colonial and even part of the post-colonial era in Nigeria and other parts of Africa were undocumented. Cultural proclivities, oral tradition, archives (where they exist) and relics seem to be the few methods of preserving records for posterity. Analysis of these forms of evidence provided via these sources was one of the major sources of data used in this research. This is consistent with the belief that the past shapes the present and the lessons that can be learned can be exploited as a source of data for a research of this nature.

The physical observations were on the relics of the Igala traditional buildings. These were used because of the benefits they provided for on-the –spot assessment of the features of the buildings at the natural locations, and thus bringing naturalism into the research. The survey research design was used due to the advantages it offers in capturing snapshots of practices, beliefs, or situations from a randomly selected sample of subjects within a defined geographic area through using questionnaire or structured interview guide as well as observation guide for non-human elements such as buildings and their surrounding environment. In addition, it helps researchers to explore, understand, and interpret a current and existing event, occurrence, phenomenon, or situation.

Specifically, a cross-sectional survey was used in this research. This took the form of descriptive survey and involved direct and careful observations and detailed

documentation of the pre-colonial buildings whose designs, construction methods and materials used were mainly indigenous. Others included buildings of colonial, post-colonial and contemporary periods where the design concepts, construction methods and materials used were foreign to the study area.

### **3.3 Research Strategy**

In view of the nature of the research objectives as stated in Chapter One of this thesis, the mixed-method strategy was considered the most appropriate and was subsequently used for finding answers to the research questions posed in this study. This research strategy helped the researcher in the generation of both qualitative and quantitative data using a combination of observation schedule and questionnaire. Whereas qualitative data were derived from observation of the buildings to identify their forms and materials used as well as pattern of spatial arrangements in the Igala traditional architecture in the pre-colonial, colonial, post-colonial and contemporary eras, quantitative data were collected from individuals considered to have knowledge and experience with the Igala traditional architecture from 1800 to 2017, which is period covered by this research using the structured questionnaire.

### **3.4 Research Population**

The research population for this study consisted of 252,512 traditional compounds identified in the study area. They were identified because they have relics of the Igala traditional architecture associated with the pre-colonial, colonial, post-colonial and contemporary era. For the human subject, the research population was the total number of adult residents in these traditional compounds identified. In view of the fact that not all these could be included in this research, a sample had to be included that is representative of all the features of the research population.

### 3.5 Sample Size Determination

In order to have a sample size that is a representative of the research population for the purpose of generalizing the results; an appropriate sample size is required. In determining the sample size for the research subjects, four approaches were actually considered. These were the use of census method, a sample size of similar studies, published tables and formulae. The formula method was chosen because it enabled the researcher to have combination of levels of precision, confidence, and variability. Specifically, Yamane (1967:886) was used in the estimation of the sample size for this research. This formula is given as:

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision which will be  $\pm 3\%$  (0.03), and is a constant. A 95% confidence level and  $p = 0.5$  were assumed.

$$n = \frac{252,512}{1 + 252,512 (0.03)^2} = \frac{252,512}{228.3} = 1,106.$$

The sample size adopted for the research was therefore 1,000 traditional compounds, and this formed the basis for the administration of questionnaire and physical observations.

### 3.6 Sampling Technique

The sampling technique considered appropriate for this research was the non-probability sample method which was used in selecting the sample group. Peil (1976) identified three types of the non-probability sample methods: accidental, quota, and purposive sampling. Two of the methods were adopted. Thus, purposive

and quota sampling methods were adopted because of the following reasons. First, since all the nine local government areas in Igala land were to be covered and not all the communities in each local government area contained archetypes of buildings that existed in the different periods covered in this research; hence a purposive sampling procedure was used in selecting the communities that contained pre-colonial, colonial, post-colonial and contemporary archetypes. Second, the quota sampling procedure was used in selecting the compounds, house forms and buildings, so that important source of homogeneity in the residential structure could be established in the sample group. This sampling technique was used to ensure that the sample selected represent quotas of the different elements having the characteristics of the research population in proportion to their prevalence in the study area.

### **3.7 Sources of Data**

Nieuwenhuis (2007) identified the four sources of data for historic research to include the primary source (archived documents or other original sources); the secondary source (works of other scholars on the focus of the study); running records (documentaries maintained by organisations); and recollection (including oral histories and autobiographies). Following from these, the data used in this research were sourced from primary and secondary sources. The primary data will be collected from archived documents or other original sources; observations of the 1000 compounds and residents of the buildings and compounds with relics of the Igala traditional architecture from 1800 to 2017. The secondary sources of data included works of other scholars on the focus of the study; records such as documentaries maintained by organisations; and oral histories of the study area and her people.



### **3.8 Data Collection Instruments**

#### **3.8.1 *Observation schedule***

The observation schedule was specifically designed and used to collect data on the construction materials of the building elements of the Igala houses in the pre-colonial, colonial, post-colonial and contemporary periods (1800 – 2017). This provided data on the types and materials of foundation, wall, floor, column, beam, openings, ceiling, roof truss, roof covering, fence, finishing, and others like electrical and mechanical fittings (see appendix I). In addition, this instrument was also used to observe the relics of the buildings as they exist currently and as recorded in published and unpublished documents and archives. The observation made on compounds and buildings as well as documentary analysis were recorded using pencil and sketch/note pads in the form of sketches and drawings and texts and photographs using photographic materials.

#### **3.8.2 *Questionnaire***

In this study, a structured questionnaire was used to collect data. The questionnaire instrument was designed based on findings from the literature review and the research questions of the current study. The questions in the questionnaire were specifically designed to collect data on the following aspects: (i) influence of culture on the evolution and intrinsic features and values of the traditional Igala architecture in the period under review; (ii) predominant pattern of spatial arrangement in the Igala traditional architecture between 1800 and 2017; (iii) factors perceived by the people to have influenced the transformation of the Igala traditional architecture within this period.

The question had four sections. Section 1 was used to collect data on demographics of the participants in the survey. Section 2 was designed to collect data on the influence of culture on the evolution and intrinsic features and values of the Igala traditional architecture in the period under review. Section 3 was designed to collect data on the predominant pattern of spatial arrangement in the Igala traditional architecture between 1800 and 2017. And section 4 was designed to collect data on the factors perceived by the people to have influenced the transformation of the Igala traditional architecture within the period under review. The scale of measurement used was mainly the Likert type scale of '1' for Strongly Disagree '2' for Disagree, '3' for Not Sure, '4' for Agree and '5' for Strongly Agree and nominal scale of '1' for Culture, '2' for climatic Influence, '3' for Economic Influence, '4' for Social Influence and '5' for Availability of Technology/materials. In addition, there were also questions based on 3-point Likert type scale: '1' for Rectilinear form, '2' for Circular curvilinear and '3' for Single unit house. The third section was one open-ended question on the measures for the documentation, preservation and application of Igala traditional architecture in contemporary Nigeria architecture. In order to gather accurate data needed for the research, the questions in the questionnaire were interpreted in Igala language when and where it was necessary for those who rarely understand English Language.

### **3.9 Method of Data Collection and Analysis**

The data collection process involved several strategies. First was to identify and document things observed in the documentary analysis. The checklist containing things observed during the field survey had already been identified in the observation schedule. In extracting data from archived documents, works of other scholars on the focus of the study, documentaries maintained by organisations, a systematic review

and analysis of the sources was carried out to identify the key issues that relate to the subject of this research as captured and presented in these sources. For oral histories, verbal interactions between the researcher and some of those who participated in the questionnaire survey were carried out and these were recorded by taking notes using pen and note pads, this was complimented by anecdotal evidence based on the experience of the researcher- who is an Igala person.

For the physical observations, independent observations were made on the compound and buildings showing Igala architecture in the pre-colonial, colonial, post-colonial and contemporary periods. Specific elements observed were spatial organisation of the compounds, house forms, building materials used and in some cases the construction process. The observations were systematic and logical and were recorded using sketches of the plans, elevations and sections of the buildings. These was complimented with the use of photographic materials and presented as pictures. In the administration of the questionnaire, a combination of purposive and random sampling techniques was used in the selection of those to whom copies of the questionnaire were administered to. Specifically, only those considered to be 50 years and above were randomly selected to participate in the survey. One copy of the questionnaire was given to one person in each of the compound/building selected.

### **3.9.1 *Methods of Data Analysis***

In view of the fact that the data used in this research were both qualitative and quantitative in nature, the methods of analyses used were best suited for the mixed data set. The data derived from the documentary analysis and observation schedule recorded in the forms of texts, sketches, drawings and photographs/pictures were analysed using thematic content analysis. This principally involved the identification

and integration of related pieces of information from the different sources and identification of commonality and differences in the information. This was made possible through text search in the documents, which used to identify recurring themes in the submissions by previous authors in the different documents analysed. Similar search was carried out in the pictures, sketches and drawings of compounds and buildings to identify the different forms used, spatial organisation and the building materials used in the construction of the various building elements in each era covered in this research.

The data collected using the questionnaire were processed using computer, and analysed with the help of Statistical Package for the Social Sciences (SPSS). The basic type of analysis conducted was descriptive analysis which involved the use of descriptive statistics, namely frequencies and percentages to analyse the distribution of the responses obtained from the questionnaire into the various categories. The results are presented using tables and charts. The summary of the research design and methods used in the research is presented in Table 3.1.

Table 3.1: Summary of Research Design and Methods

S/N	Questions	Objectives	Research Methods			
			Data source	Data Collection Instrument	Nature of Data	Method of Data Analysis
1	What are the identifiable intrinsic features of the Igala traditional Architecture between 1800 and 2017?	To identify, document and describe the intrinsic features of the Igala traditional architecture between 1800 and 2017.	Compounds, buildings, documents and oral history.	Observation schedule	Qualitative	Thematic content analysis
2	What are the values that can be derived from the Igala traditional Architecture ?	To examine the values that can be derived from the Igala traditional architecture.	Compounds, buildings, documents and oral history.	Observation schedule	Qualitative	Thematic content analysis
3	What is the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017?	To determine the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017.	Residents of the buildings, documents and oral history.	Questionnaire and observation schedule	Quantitative and Qualitative	Descriptive Statistics and thematic content analysis
4	What are the factors responsible for the transformation of the Igala traditional Architecture in the period under review?	To examine the factors responsible for the transformation in the Igala traditional architecture in the period under review.	Residents of the buildings, documents and oral history.	Questionnaire and documentary analysis	Quantitative and qualitative	Descriptive statistics and Content analysis

### 3.10 Validity and Reliability of the Research

There are different types of validity in research applicable to this study. The first is internal validity, which deals with the extent to which variables used in a research truly test the situation investigated or if the result obtained a true reflection of the

situation due to some internal influencing factors. Internal validity in this study was achieved through two major strategies: the adoption of a combination of historical research and survey research design and triangulation of data collected using documentary analysis, observation schedule and questionnaire. The second one is external validity, which is concerned with the extent to which the results obtained in a research involving a sampled population can be generalized for the entire study population (i.e. population validity). This was achieved in this research by ensuring that sample size of the buildings/compound and respondents in the questionnaire survey are representative of the various sub-groups that have all the characteristics of the target population. Another strategy used was selection of people who are over 50 years and have experience with the Igala traditional architecture to participate in the questionnaire survey.

Reliability deals with the ability of the data collection instrument to consistently measure what it was designed to measure. In other words, it is about coverage of subject matter by the instrument and accuracy of purpose in evaluation. The reliability of the questionnaire instrument was ensured using several strategies. First, it was subjected to expert review by the researcher's supervisor, a statistician and two research fellows in the Department of Architecture, University of Nigeria. Second, a pilot survey was conducted using two hundred (200) copies of the questionnaire for a preview of what to expect in the main study. The respondents in the pilot survey were randomly selected from Ofu, Olamaboro and Dekina Local Government Areas out of the nine (9) local government areas covered in the study area. The three local government areas were selected because they are the places where the Igala pre-colonial house form, Igala colonial houses, Igala post colonial and contemporary houses are most prevalent today. The pilot survey helped in

determining the suitability of the questions for the main survey. Lastly, the second section of the questionnaire was subjected to reliability tests using Cronbach alpha reliability test and the result returns Cronbach alpha coefficient ( $\alpha$ ) of 0.81, which is an acceptable measure of reliability of the scale of measurement used in framing the questions in this part of the instrument.

## CHAPTER FOUR

### DATA PRESENTATION AND ANALYSIS

#### 4.1 Intrinsic Features of the Igala Traditional Architecture

Igala traditional architecture evolved as a product of the people's culture. Even though other factors such as climate and building materials directly influenced the people's building practice, culture remained the major determinant factor of their architecture. The Igala traditional architecture was a reflection of the people's culture. It was their cultural heritage. The Igala people practiced the circular curvilinear house form in the pre-colonial period before the European influence and modernization. The circular curvilinear house form represented the people's traditional architecture, and was commonly practiced across Igala land. The plan was circular and walls were made of mud. Roofs were of thatch, covering a framework of wooden supports or covering mud domes. Sometimes the walls were made of wattle and daub. The roof shape was conical. The buildings were free standing and usually enclosed a courtyard which housed a reception hut locally called *Atakpa* as shown in Figure 4.1.



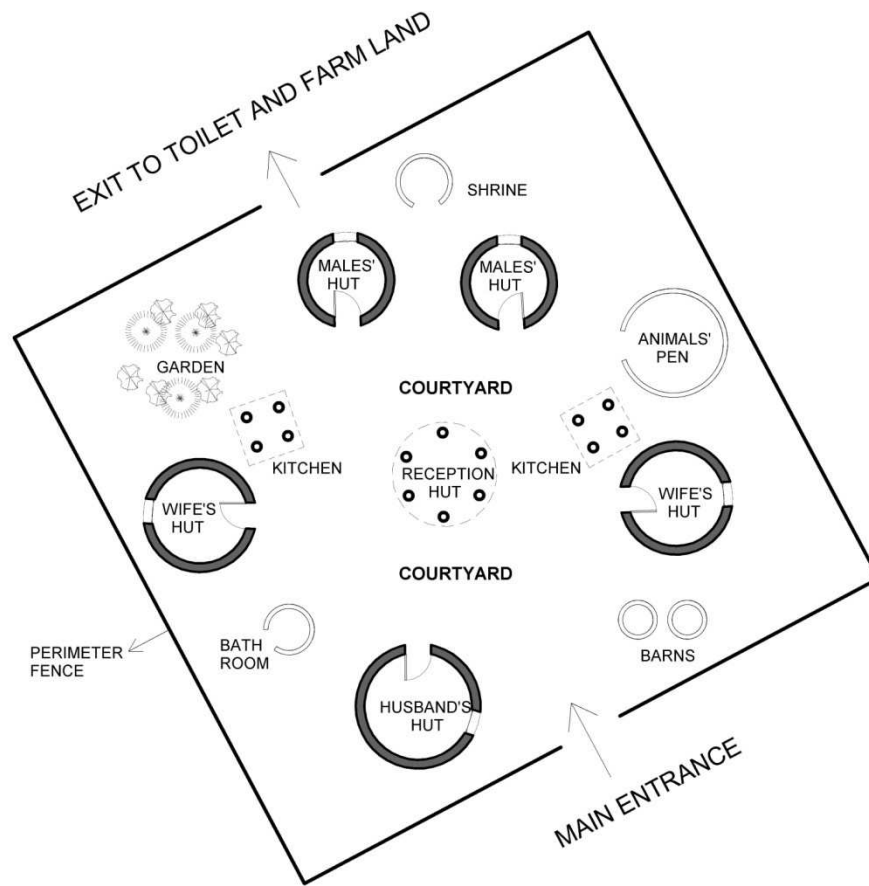


Fig 4.1: Igala Traditional House Form.  
Source: Field survey (2017).

The circular curvilinear house form was peculiar and unique to the Igala people because it represented their culture and identity and was compatible with their environment, religion and socio-economic life style. The circular huts were reminiscent of the cave shelter which was the shelter of the ‘cave Igala man’. The cave shelters were usually circular voids or hollows, some of which existed naturally while others were carved. The traditional Igala house form was adaptable to the people’s needs. For instance, the socio-economic activities of the people such as farming and animal husbandry were supported by the incorporation of animals’ pen, vegetable garden and barns in the house form. The circular form of individual huts and their arrangement formed a courtyard that accommodated a reception hut where

visitors were first received and entertained as is the custom of the people. The courtyard and reception hut played important role in the socio-cultural life of the Igala people, they were the centre for social activities. Shrines were introduced in the compound to serve religious activities. Security and privacy were important in Igala culture and were facilitated by small windows and their limited number, and also perimeter fence which determined the boundaries of the compound. The fence allowed an entrance or opening known as *Qna* in Igala. The entrance is usually close to the hut of the head (husband) of the compound which enabled him to screen visitors and trespassers. The availability of traditional building materials that were easy to manipulate and which made construction process easy, and which were also environmentally and culturally friendly also played a major role in the practice of the circular curvilinear house form. The circular curvilinear house form was the Igala architectural identity.

It was only during the colonial era after the introduction of corrugated iron roofing sheets that the South-East part of Igala land comprising two Local Government Areas; Ankpa and Olamaboro Local Government Areas practiced two types of house forms. These were the circular curvilinear house form and a variation of the circular curvilinear house form known as the impluvial house form.

The major difference between the circular curvilinear house form and the impluvial house form is that the latter has an impluvium constructed in the courtyard for the collection of rain water and general storage of water. The impluvial house form is common among the Igbos of South-East Nigeria. The South-East part of Igala land is close to and shares border with the Igbos of Enugu State, particularly with the towns of Enugu Ezike, Ete and Obollo Afor, all in Enugu State. This close proximity encouraged inter-marriage, trade and migration between the Igbos and the Igalas.

Hence the two groups influenced each other in the areas of religion and name bearing. The Igala people of Olamaboro that has direct contact with the Igbos at the boundary are predominantly Christians. And the Igbos of Ete, Enugu Ezike and Some parts of Nsukka bear Igala names like *Attah*, *Ali*, *Idoko* to mention a few. Other areas influenced are socio-economic life style, farming system, family pattern and settlement pattern. Hence, the adoption of the impluvial house form by the Igalas of this region.

This study identified the circular curvilinear house form as the predominant in Igala land. Also, the impluvial house form is just a minor variation of the circular curvilinear house form. Yet, the study will not be unmindful of the impluvial house form where and when mention is necessary in the course of the study.

#### **4.1.1 *Structure and Components of the Igala Traditional Compound***

The circular curvilinear house form which represented the Igala traditional architecture in the pre-colonial period comprised of various spaces for different activities. These activities included sleeping, food preparation, food storage, animal husbandry, social interaction, religious activities and security. Each of these activities took place in different spaces specially planned to accommodate them. The plan varied from space to space depending on the nature of activity, so also was the construction technique.

Different families have different size of house forms. This was due to the fact that families in Igala land were not the same in size. A larger family had a house form or compound which was larger than a smaller family. The number of huts in a compound depended on the size of the family. A smaller family had fewer huts. But as the family increased in size, the number of huts increased. This growth in the size

of the house form was facilitated by its organic nature. The plan of the huts also varied according to the number of occupants, the furniture usually comprised of bamboo bed, log of wood as seats and a water pot. Figure 4.2 shows typical traditional Igala floor plan and furniture plan. The Igala traditional thatch house was referred to as ‘*unyi-egbe*’ in Igala language.

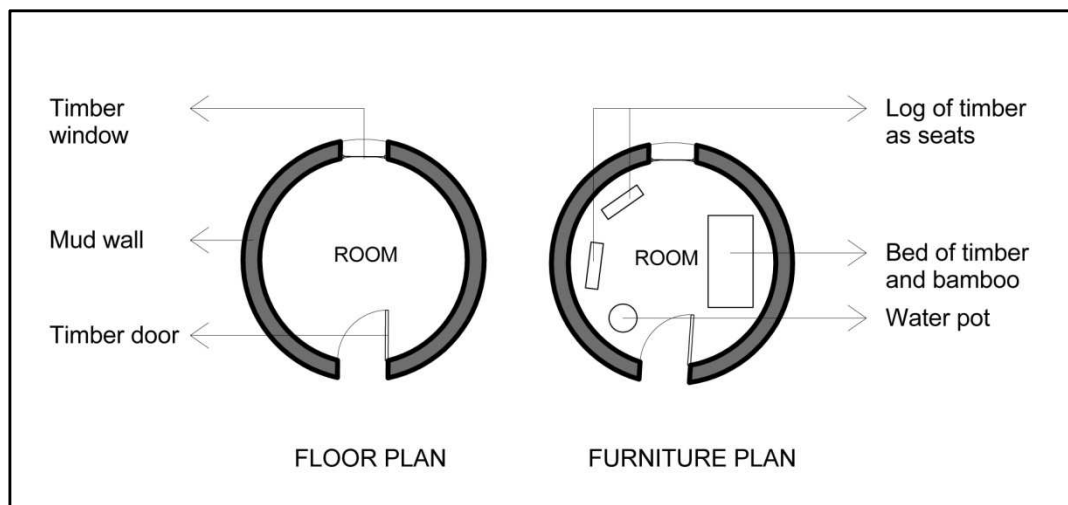


Fig 4.2: Typical Igala Traditional Floor Plan and Furniture Plan.  
Source: Field Survey (2017).

**i. The courtyard (*Okolo*)**

The courtyard, which is known as (*okolo*) of the Igala traditional house form is the nucleus of the traditional house form and showed a social order and organisation of space to promote cultural and religious lifestyle of the people. The *okolo* provided space for the women to carry out household industries, occasional meeting place for members of the family and playground for the children under close supervision of their parents (See Fig. 4.3). The *okolo* also served as a sleeping place during the hot hours of the tropical days and nights. The area of the *okolo* was defined by the arrangement of the buildings.



Fig 4.3: Igala Women Carrying Out Domestic Activities in Igala Traditional Courtyard.

Source: <https://images.app.goo.gl/obvEALFnqxaSiMej9m>, 2017.

## ii. *The Reception Hut (Atakpa)*

This is usually constructed in the centre of the courtyard directly opposite the main entrance into the compound. Its functions, among others, included reception and entertainment of visitors, social gatherings, family meetings, daytime lounge and workspace. A typical Igala traditional house form possessed one *atakpa*, but the presence of multiple *atakpas* signified the presence of siblings from different mothers, and an enduring polygamous set-up. The *atakpa* of the Igala traditional house form (like the Hausa *Zaure*, Igbo *Obi* and Tiv *Ate*), to all intents and purposes, was a multi-purpose space. It was the first port of call in the compound where the Compound head/husband received visitors, and executed his crafts.

Seats in the *atakpa* were made of raised earths cast in-situ to serve as support for a horizontal timber placed on them. A peak period of use of the *atakpa* was when the remains of a dead relation was brought to the family for burial. The corpse was laid-

in-state in the *atakpa* of the bereaved family. Except for such occasions, the *atakpa* was strictly used for relaxation and reception, nobody slept in it.

The *atakpa* did not require privacy as there was no provision for a door or window since it was already in an enclosed compound. It usually consisted of about six (6) to nine (9) timber posts driven into the ground and raised to support thatched roof. *Atakpas* were curvilinear in shape until in the colonial period when they adopted the rectilinear shape (See Fig. 4.5). Sometimes a dwarf mud walls of about 600 millimetres high with a door way, was built to define its boundaries (See Fig. 4.4). Except for the location, the *atakpa* functioned like the *zaure* in traditional Hausa house form, *Obi* in traditional Igbo house form, *Ate* in traditional Tiv house form, and entrance hut of Rukuba of Jos Plateau of central Nigeria.



Fig 4.4: Igala Traditional Curvilinear Reception Hut.  
Source: Field Survey (2017).



Fig 4.5: Igala Traditional Rectilinear Reception Hut with Dwarf Wall.  
Source: Field Survey (2017).

### iii. *Head of the Family's Hut (Unyi Ẹnẹnyi)*

The husband (*ẹnẹnyi*) who is the head of the family had his sleeping hut at the entrance of the enclosed compound and directly opposite those of his wife/wives. This choice of location was necessary for security reasons. With this arrangement, the *ẹnẹnyi* was able to screen all visitors and intruders and also properly oversee all activities that went on in the courtyard. The wives only entered *ẹnẹnyi's* hut on invitation. It was customary for the man to sleep with his wives in turns in his hut. Beds in the sleeping huts were made of stems or midribs of palm fronds weaved into a mat and placed on a raised frame of bamboo. A typical hut of the traditional Igala house form had a diameter between 2.4 metres to 3.5 metres (See Fig. 4.6).



Fig 4.6: Typical Husband's Hut  
Source: Field Survey (2017).

**iv. Wives' Huts (*Unyi Abobulẹ*) and Kitchen (*Obuka*)**

In a polygamous set up as was common in Igala land in the pre-colonial period, the wives' huts (*unyi abobulẹ*) were located opposite their husband's hut, to the left and right, and faced the courtyard (See Fig. 4.7). Each wife housed herself, her daughters and young kids. The wives' huts were strictly for sleeping, a depression on the earthen floor at the corner of the hut held the water pot. Preparation for food and cooking took place in their individual cooking place located outside by the side of their huts. In some cases, cooking would take place in the general cooking place, this happened when there was need for a large fire place.





Fig 4.7: Typical Wife's Hut.  
Source: Field Survey (2017).

The cooking places were usually open, marked by three stones placed in triangular formation to form a tripod for the cooking pot which was heated from below (See Fig. 4.8). Sometimes kitchens (*obuka*) were erected with timber posts supporting thatch roof, and thatch/vegetable wall, the wall could also be dwarf mud wall (See Fig. 4.9).

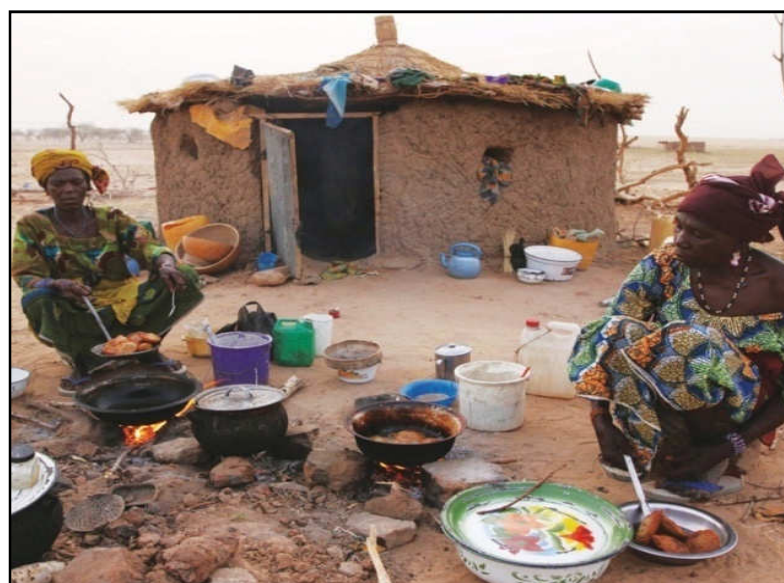


Fig 4.8: Outdoor/Open Cooking Place.  
Source: Field Survey (2017).



Fig 4.9: Igala Traditional Kitchen Structure.  
Source: Field Survey (2017).

Perishable food items and food stuffs were stored in baskets and clay pots on platforms in the sleeping huts, usually raised above the ground at the corner of the room. Stems of trees such as the iroko were carved and used as seats in the huts. The grown-up female children stayed with their mothers until they were married.

**v. Adult Males' Huts (*Unyi Abokęę*)**

Younger male children stayed with their mother until they were old enough to share rooms with their older brothers. Older males had their huts at the rear of the courtyard away from the women's huts (See Fig. 4.10). All unmarried young men continued to eat from their mother's pot and maintained their rooms within the compound until they were married. When they did, a site was given to them by their parents close to their mother's hut. Consequently, the compound gained more size.



Fig 4.10: Typical Adult Male Children's Hut.

Source: <https://images.app.goo.gl/xW2A9y3p7RzecovS9>, 2017.

#### **vi. Animals' Pen (*Unyi Eñu-qre*)**

Domestic animals reared by families were mainly goats, sheep and chickens. A frame structure was usually constructed with timber posts, bamboo stems and midribs or stems of palm fronds, and the top roofed with thatch to house the mammals (See Fig. 4.11). In such case, the male children cut leaves and grasses from nearby bushes every morning to feed the animals. The animals were also allowed out of the pen occasionally. Sometimes the goats were reared completely free range; they wondered around freely and laid around the compound (See Fig. 4.12). The chickens were reared in a free range system, they slept in their owners' hut where they also laid their eggs and hatched their chicks. The number of animals one had was regarded as an indication of one's success.



Fig 4.11: Typical Animals' Pen.  
Source: <https://images.app.goo.gl/nLfZysY91AUz5tcGA>, 2017.



Fig 4.12: Animals Reared in Free Range System.  
Source: Field Survey (2017).

#### **vii. Bathrooms (*Unyi Ugw'qla*) and Toilets (*Ubioko*)**

Bathrooms (*unyi ugw'qla*) were located close to sleeping huts, this was to ensure privacy and close proximity to the rooms. Usually one bathroom served an entire compound but sometimes different bathrooms were constructed for males and



females. Bathrooms were constructed with vertical timber posts held together by midribs or stems of palm fronds placed and tied horizontally at both sides of the posts. This was repeated at different heights using bush twines. The narrow gap formed between the midribs was filled vertically with palm fronds until a rigid structure was established and complete privacy achieved. The top was usually left uncovered, and the door way secured with a cloth to shield the nakedness of a user. The shape of the bathroom was usually round (See Fig. 4.13). The pot of bathing water was placed on a log of wood. The young children bathed outside their mothers' huts.



Fig 4.13: Igala Traditional Bathroom.  
Source: Field Survey (2017).

The Igala traditional house form in the pre-colonial period did not incorporate toilets (*ubioko*). They were later introduced in the colonial, post-colonial and contemporary periods. In the pre-colonial period, they were not allowed in the compound. Nearby bushes and farmlands were used as toilets.

#### **viii. Food Barns (*Aka*)**

Food barn (*aka*) was an important part of the Igala traditional house form. This was so because farming was the mainstay of the Igala people. There were different types and sizes of *aka* for storing different food crops. *Aka* for storing tubers were different from those for storing cereals and nuts. All barns were located close to the entrance of the compound. One major reason for this location was to display the man's wealth and success to visitors. In Igala culture, a big barn was a sign of wealth and success.

In the construction of the commonly used *aka*, about four forked timber posts were driven about 300 millimetres deep into the ground leaving the forked ends about 300 millimetres above the ground. Four timber stems were placed horizontally and tied across the forks, a woven mat from stems of palm fronds was laid flat and tied to the timber stems using bush twines. A basket weaved in a circular pattern with diameter of about 900 millimetres and height of about 1800 millimetres was placed on the flat surface. Four timber posts were driven into the ground along the sides of the basket and about the same height as the basket. The basket was tied to the posts to provide support and rigidity. The space between the bottom of the basket and the earth below functioned to discourage pests and moisture from attacking the content of the *aka*. The top of the *aka* was covered with thatch, sometimes it was left open with a frame wooden structure constructed over it. The frame structure was covered at the top with thatch to secure the barn from elements of weather (See Figures 4.14 and 4.15).



Fig 4.14: Small Igala Traditional Barn.  
Source: Field Survey (2017).



Fig 4.15: Big Igala Traditional Barn  
Source: Field Survey (2017).

**ix. Shrine Hut (*Achekwu*)**

Christianity and Islam are the major religions of the Igala people today. Few areas of Igala land still practice traditional religion.

In the pre-colonial period, the shrine hut (*achekwu*) was located about 15 metres to 20 metres away from the courtyard. This was because it was regarded as sacred. It was constructed with bamboo stems and timber posts. Sometimes palm fronds were used to secure it from view, a solid wall was not required. The floor area of a shrine hut was less than 2 sqm. Images of carved wood or other materials which served as gods were kept in the small structure which was roofed with thatch. Shrines that survived into the colonial period were roofed with corrugated iron sheets (See Fig. 4.16).



Fig 4.16: Shrine in Igala Land.  
Source: Field Survey (2017).

**x. Impluvium (*Ur'omi*)**

The Impluvium is worthy of discussion even though it was introduced in Igala land in the colonial period as part of Igala traditional house form. In the South-Eastern



part of Igala land where the impluvial house form was practiced, it was an integral part of the house form. The impluvium was constructed in the courtyard to collect and store rain water from corrugated iron roofing sheets. Alternative collection of water was from streams into the impluvium. The impluvium was a pit of about 3 metres to 4metres deep and diameter of about 3 metres, dug into the earth. Sandcrete hollow blocks were used to build its wall out of the pit to extend to about 900 millimetres above the surface of the earth. The floor was constructed with concrete. The concrete floor and wall were plastered with cement and sand for proper retention of water. The top was covered with corrugated iron sheets nailed to wooden truss placed and nailed or strapped to the extended wall. Later in the colonial and post-colonial periods, the top was covered with concrete which had an opening (See Fig. 4.17).



Fig 4.17: Impluvium for Storage of Water  
Source: Field Survey (2017).

#### **xi. Perimeter Fence (*Qgba*)**

Although in the Igala traditional societal setting in the pre-colonial period, there was a low level of crime, and also low level of security consciousness because of limited

threat to life and property. Some effort was still made to safeguard individual compounds using perimeter fence. The perimeter fence performed three major functions: provision of privacy; defining the boundaries of the compound and checking invaders and trespassers. The perimeter fence was constructed leaving only one major entrance close to the hut of the head of the compound to checkmate who came in and went out of his compound. The entrance led visitors directly to the reception hut. A secondary entrance was provided at the rear of the compound which led to the farm or bushes.

In the construction of the perimeter fence, timber posts with height of about 1500 millimetres were driven into the ground to a depth of about 300 millimetres. The timber posts were spaced at about 900 millimetres interval to serve as columns. Midribs or stems of palm fronds were tied horizontally and consistently spaced across the posts, one on either side using ropes of fibre obtained from stems of palm fronds or bush twines. This was repeated at different heights creating a narrow gap in between the midribs (See Fig. 4.18). The narrow gap was then filled vertically with palm fronds until a rigid wall was achieved in a way that viewing into the compound from outside became impossible. Another method of Igala traditional fence construction involved the use of only midribs/stems of palm frond and timber posts. The midribs were arranged to form a woven pattern and placed in between the timber posts (See Fig. 4.19). The perimeter of the Igala traditional fence depended on the boundaries of the compound.



Fig 4.18: Igala Traditional Perimeter Fence Constructed with Palm Fronds.  
Source: Field Survey (2017).



Fig 4.19: Igala Traditional Perimeter Fence Constructed with Mid Ribs of  
Palm Fronds.  
Source: Field Survey (2017).

## 4.2 Igala Traditional Building Materials

Traditional building materials in Igala land are locally obtained from the forests and mangrove swamps found in the region. They have little or no variations in their application techniques, hence each traditional compound shows peculiarity in architecture only taking cognizance of its circumstance both in the environment and occupants. Common building materials in Igala land include earth/mud, timber/wood, bamboo stem, grass, palm frond, palm stem and vegetable fibre.

**i. Earth / Mud (*Ikẹtẹ*)**

This is the most abundant local building material in Igala land. Clay or laterite soil is prepared by digging it out of the ground, mixing it with water and puddling it. The derivative is mud.

After acquiring an ideal consistency, it was thrown into small squares, which were used to erect walls in monolithic wall construction, or fill the space created by tying the stud and bamboo together in wattle and daub construction. A mixture of earth and fine sand to an ideal consistency could also be used as plaster (See Figures 4.20 and 4.21).



Fig 4.20: Puddling of Mud  
Source: Field Survey (2017).





Fig 4.21: Mud Bricks.  
Source: Field Survey (2017).

Mud (*ikette*) has several advantages as a construction material. It is a versatile material and can be moulded into a wide range of shapes and forms. The use of mud in rectilinear and curvilinear buildings, as well as creating massive structures and thin shell structures is examples of the wide range of its use. Also, mud can be quite durable if adequately stabilized and maintained. Another advantage of mud is its great aesthetics value. Appropriately treated, mud surfaces can be used for mural design or for relief design.

The main disadvantages of mud are its vulnerability to moisture attack and its low structural capability in terms of spanning large spaces. The question of spanning large distances has always been an important aspect of the construction process. A great mass of material is required to maintain a certain level of structural stability. The only method that has been used to improve the structural performance of the material is the use of vegetable reinforcement.

**ii. Vegetable Fibre/ Bush Twine (Rope) (*Ikwu*)**

The mid-stem of palm fronds are cut and the leaves removed to obtain stiff coarse fibre material used as ropes for tying frameworks (See Figures 4.22 and 4.23). They can withstand tensile stress, but can easily become brittle when exposed for too long before use. Bush twines are alternative binding materials.



Fig 4.22: Traditional Building Rope Obtained from Bush Twine.  
Source: <https://images.app.goo.gl/ACyswJZp6AcpjDTR8>, 2017.



Fig 4.23: Processed Traditional Building Rope.  
Source: Field Survey (2017).



### iii. Timber (*Oli*)

Igala land has rich rain forest which provides different types of timber for construction purposes. Abundant supply of iroko and mahogany from the rain forest provides strong wood used as beams and posts in Igala traditional building construction (See Figures 4.24, 4.25 and 4.26).

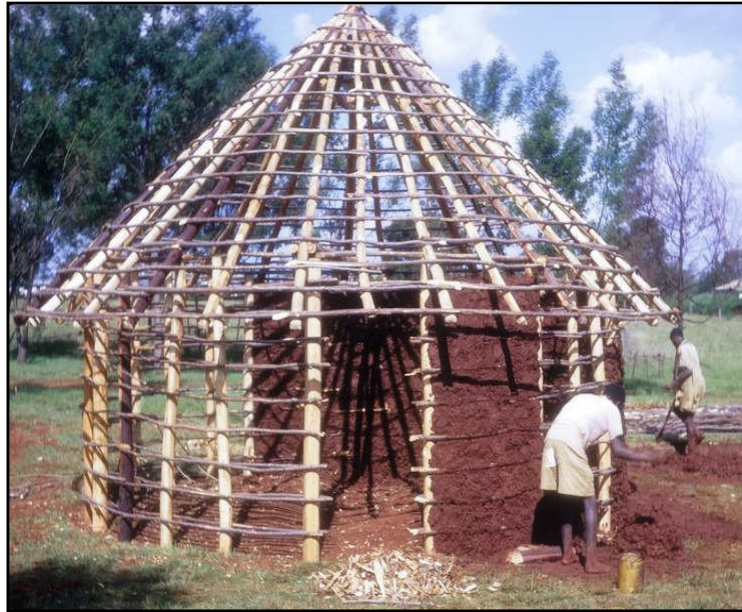


Fig 4.24: Timber Posts Used as Columns and Beams in Igala Traditional Building Construction.

Source: <https://images.app.goo.gl/BXkTKcKgoZET1JZk8>, 2017.

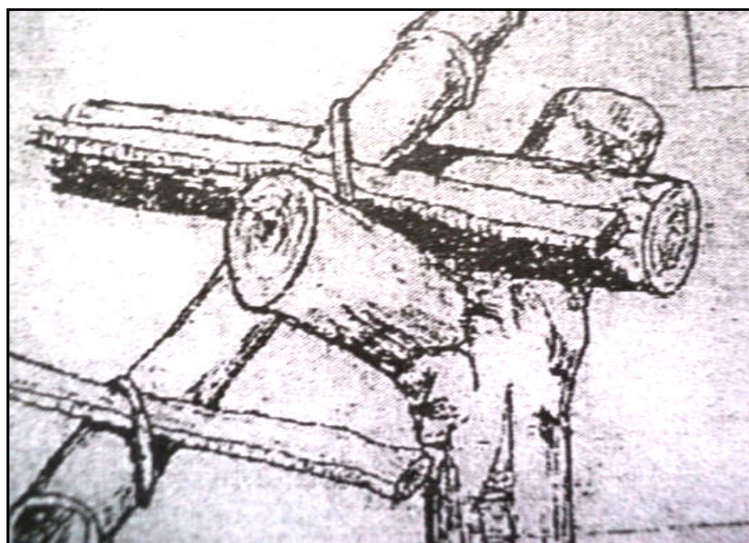


Fig 4.25: Timber Posts Used for Roof Construction.

Source: Field Survey (2017).

The timber also performs major role as columns. Fork posts are used to support roof framework; they are strong enough to transmit the roof load to the ground. They measure about ten centimetres or more in diameter with the gable roof carriers being taller than the rest. They are also used along perimeter walls as columns (See Fig. 4.26). They could either be tall or short depending on the slope of the roof.



Fig 4.26: Timber Posts Used for Wall Reinforcement.  
Source: Field Survey (2017).

#### **iv. Palm Frond (*Im'ekpe*)**

Igala land has an abundant availability of palm trees. Palm trees are the largest contributors of local building materials in the region. Palm fronds (*im'ekpe*) are obtained from palm trees (See Figures 4.27 and 4.28).





Fig 4.27: Palm Trees.  
Source: Field Survey (2017).



Fig 4.28: Palm Frond.  
Source: Field Survey (2017).

Palm fronds are used for fence construction, the leaves are used for thatching while the midribs after scrapping off the leaves, serve as rafters in roof construction. The midribs of palm fronds are among the principal building materials in Igala land. They could be split and used as cross bars in wall construction and in the roofs to serve as purlins.

**v. Bamboo Stem (*Qtachq*)**

The thick vegetation of the guinea savannah provides Igala land with abundant vegetation of bamboo. Bamboo stems (*qtachq*) are widely used in Igala land in its natural condition as longitudinally split strips, halved culms or as solid culms (See Fig. 4.29).



Fig 4.29: Bamboo Plants.  
Source: Field Survey (2017).

The most common application of bamboo in Igala traditional building construction is for wall frames, roof frames and general structural framework (See Fig. 4.30). Bamboo is strong, resilient and light weighted, they bear the dead loads and live loads of buildings and the weather. Vertical strips filled between horizontal framing members are required to complete the wall. The function of the vertical filling is to shield against elements of weather and animals, to offer privacy and to ensure the overall stability of the overall structure when subjected to horizontal forces. The structure of a bamboo roof is comprised of purlins, rafters and truss.



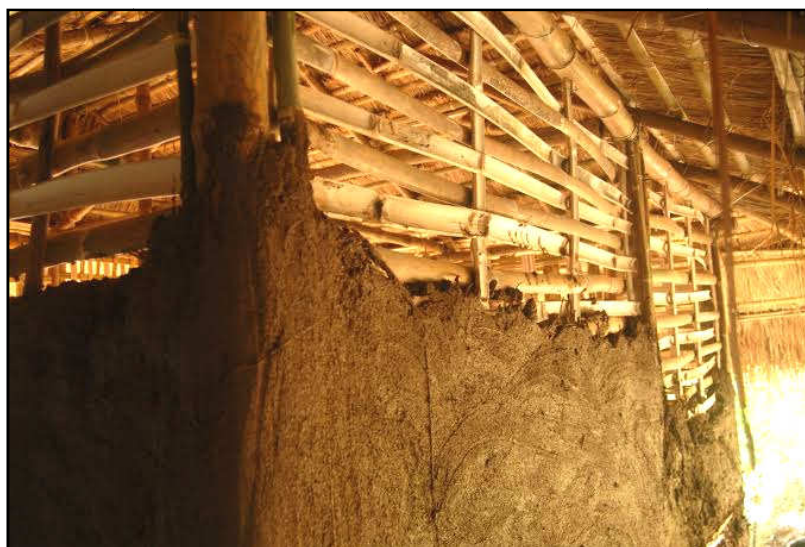


Fig 4.30: Bamboo Stem Used as Reinforcements.  
Source: <https://images.app.goo.gl/qmph7FXk8x69ByXSA>, 2017.

#### vi. Grass (*Egbe*)

The most available thatching material was pill-grass (*imperata cylindrica*) or “*iwo*” in Igala (See Figures 4.31 and 4.32). It is a long growing grass that grows in the fine humus soil of the guinea savannah region of Nigeria.



Fig 4.31: Pill-Grass (*Imperata Cylindrica*).  
Source: Field Survey (2017).



Fig 4.32: Processed Pill Grass Ready for Use.  
Source: Field Survey (2017).

Pill grass grows from 0.6 metres to 3 metres tall. The leaves are as wide as 2 centimetres at the base of the plant and narrow at the top end, the edges have fine teeth and are finished with sharp silica crystals. The major vein is a lighter colour than the rest of the leaves and is usually nearer to one side of the leaves. The surface at the top is hairy closer to the base of the plant, but the underside is usually hairless. The roots of the plant are up to 1.2 metres deep.

The volume of grasses needed for use was cut using tools like the machete. Bare hands were also used where machete was not available.

### **4.3 Igala Traditional Building Technology**

The Igala traditional building technology is predetermined by tradition, the builders' knowledge according to the culture of the people and the building materials available. This study identified the Igala traditional building technology adopted in the construction of various elements of the Igala traditional building.

#### **4.3.1 Foundation Construction**

In the construction of Igala traditional building, there was no foundation footing. What is obtained was a base which was the natural load bearing soil on which the mud rested. In order to erect a wall, a narrow and shallow trench was dug along the position of the walls. These trenches could be as shallow as 250 millimetres and usually not deeper than 400 millimetres irrespective of the type of load expected. The width of trench was about 450 millimetres. The bottom of the wall remained within the organic subsoil instead of laterite soil devoid of fossils (organic matters) (See Fig. 4.33). This resulted in most of the walls developing cracks. The problem of collapse of wall became a frequent occurrence as they developed these cracks. Material for foundation construction was clay rammed into trench.



Fig 4.33: Igala Traditional Round House Foundation Construction.  
Source: Field Survey (2017).

#### **4.3.2 Wall Construction**

The Igalas practiced two methods of wall construction, namely; the framework, wattle and daub method and the monolithic wet wall construction. In the framework,

wattle and daub method, the major structural elements were the forked posts. Intermediate sticks were also put in place vertically. Tiny long sticks (usually midribs of palm fronds or bamboo) forming the horizontal elements of the frame work were tied to the vertical sticks and posts using fibre/ropes obtained from palm fronds. All these pieces of sticks were strongly tied to one another so that at the end, a grillage was formed which distributed any force(s) almost uniformly to the external walls and ultimately to the foundation. Wet and kneaded mud was normally thrown on these frame work to cover it (See Figures 4.33 and 4.35).



Fig 4.34: Structure of Wattle and Daub Wall.

Source: <https://images.app.goo.gl/rbjFzb7rMw3wx2Te6>, 2017.



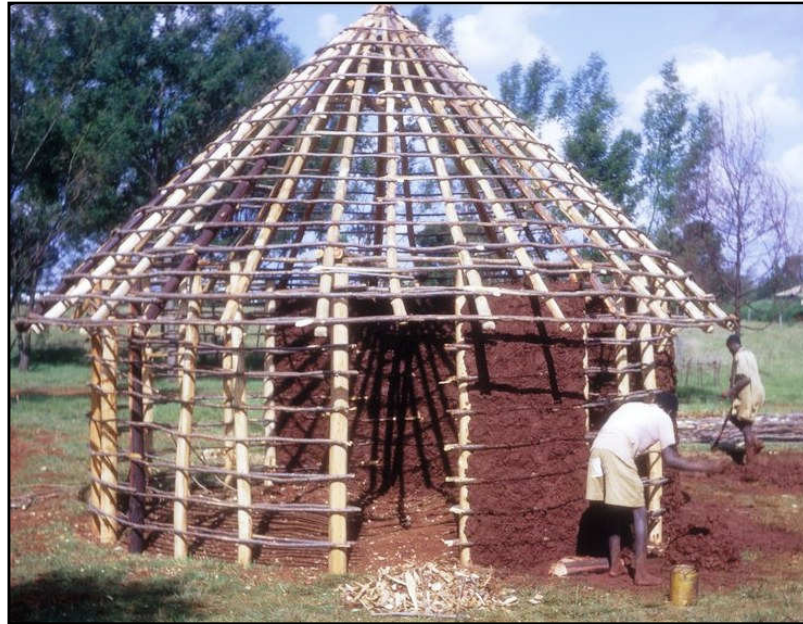


Fig 4.35: Laying of Daub (Mud) on Wattle.

Source: <https://images.app.goo.gl/BXkTKcKgoZET1JZk8>, 2017.

In the monolithic wet wall method, wet and well kneaded mud which had been made workable was used to build up the wall. To prepare the mud for building purpose, the first step was to clear the site followed by the digging of the pit. This was done until some depth where a more plastic laterite was reached. The dug earth, mixed with water and stamped upon by feet provided a good paste for walling (See Figures 4.36 and 4.37).



Fig 4.36: Mud Preparation.  
Source: Field Survey (2017).



Fig 4.37: Mud Puddling.  
Source: Field Survey (2017).

The paste was prepared into lumps each about the size of the man's head and carried by young men to the builders while young women supplied water. While the walls were still wet, all the required niches and recesses were cut within the rooms. Timber posts were also pushed into the walls at required point to carry the roof.



The walls were usually about 300 millimetres to 400 millimetres thick, built on foundations about the same width but with a depth of about 150 millimetres to 400 millimetres. The puddled mud was formed in several lumps of about 300 millimetres and thrown into position and pressed by the builder until a wall about 300 millimetres to 500 millimetres high was achieved. The procedure was repeated on dry successive layers until the builder achieved desired height. In another procedure, each layer of mud was tapered to enable the successive one overlap and spread over it. The same process is adopted for mud bricks. This provided bonding between the separate strata of the wall which was later smoothed over with a coat of plaster (See Figures 4.38, 4.39 and 4.40).



Fig 4.38: Moulding of Bricks.  
Source: Field Survey (2017).



Fig 4.39: Laying of Mud Wall.  
Source: Field Survey (2017).



Fig 4.40: Laying of Mud Brick Wall.  
Source: Field Survey (2017).

Walls were non load bearing, they do not carry the roof truss even though they were connected to the roof. Forked posts served as columns and carried the weight of the roof.

#### **4.3.3 Floor Construction**

Floors in Igala traditional buildings were usually constructed of mud that had been rammed and well compacted using a wooden beater or the lower part of the palm

frond (See Fig. 4.41). This compaction made it strong and durable, thus able to withstand the pressure from users and the ability of water penetration from the ground. Palm oil was sometimes used to create sheen for the floor, cow dung was also used. Floors were raised up to 50 centimetres above the ground level (See Fig. 4.42).



Fig 4.41: Mud Floor Construction.  
Source: Field Survey (2017).



Fig 4.42: Mud Floor Finishing.  
Source: <https://www.igala+people>, 2017.



Other construction works that went with flooring include; benches and depression into the mud floor to accommodate pots for drinking water.

#### **4.3.4 Construction of Lintels**

Lintels in Igala traditional buildings were of timber and bamboo stem. Timber posts were used as lintel for mud construction where there were no steel reinforcements (See Fig. 4.43). In the case of daub and wattle wall construction where there were internal wall reinforcements, the reinforcements of bamboo stem often served as lintel, holding the mud in position, but sometimes, timber posts were also used (See Fig. 4.44).



Fig 4.43: Timber Post Used as Lintel in Mud Wall Construction.  
Source: Field Survey (2017).



Fig 4.44: Lintel in Monolithic Wall Construction.  
Source: Field Survey (2017).

The thickness of the timber posts depended on the loading. They were usually made from hard wood like iroko and mahogany. Thickness ranged from 50 millimetres to 100 millimetres and the width was the same as the wall thickness. When the load bearing capacity of the door head and timber lintel was below the dead weight of the structure being carried, sagging occurred and in some cases, this led to collapse.

#### **4.3.5 Ceilings, Windows and Doors**

Ceilings were not used in Igala traditional buildings because of the low head rooms of the buildings. The conical shape of the roof provided adequate volume for the occupants. Constructing a ceiling in the building will automatically reduce the volume. The only element used in the position of ceiling was a mat of weaved midribs of palm fronds and bamboo which was suspended beneath the thatch roof, and covering only a little portion of the ceiling space. This element was used as platform on which perishable food items, utensils and other kitchen items were kept (See Fig. 4.45).



Fig 4.45: Igala Traditional Mat Used as Ceiling Platform in Building Interior.  
Source: Field Survey (2017).

One remarkable thing about door and window in traditional Igala building technology was their limited number and size (See Fig. 4.46). The height of the door for example compelled the user to stoop before passing through it (See Fig. 4.47).

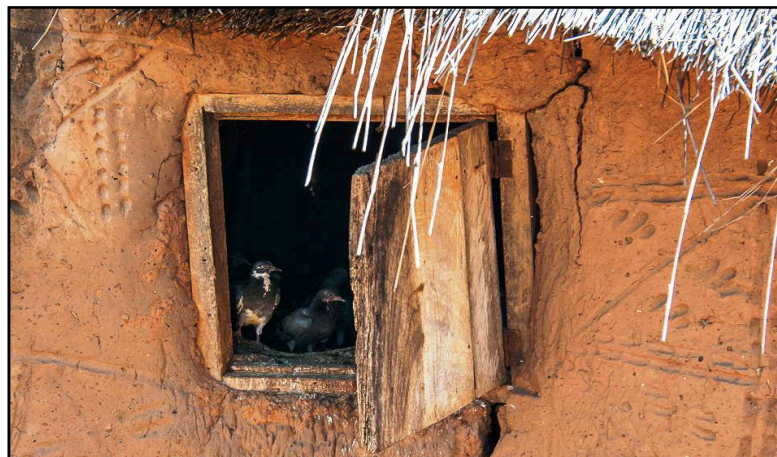


Fig 4.46: Igala Traditional Window.  
Source: Field Survey (2017).



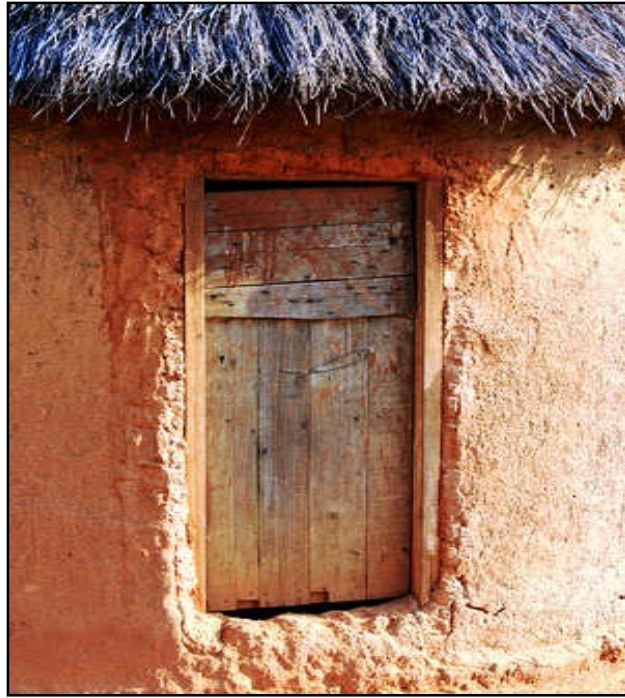


Fig 4.47: Igala Traditional Door.  
Source: Field Survey (2017).

Three reasons were responsible for this phenomenon: the first was structural; there was difficulty in providing lintels to span wide openings over the doors and windows. The second was related to the difficulty of proper adherence between mud and wood resulting in gap developing around doors and windows. The third reason was security. It is believed in Igala culture that witches, wizards and evil spirits roam villages at night. The small windows which were rarely opened helped to keep these enemies from viewing inside the buildings or gaining access into them.

Windows and doors were made of hard wood timber only. For the noble, the entrance doors had relief and paintings in bold colour made from white chalk. The doors were simply flat slabs from timber and laid against the opening. Later in the colonial period, hinges and locks were made by blacksmiths.

#### 4.3.6 Roof Construction

Roof construction was carried out after the completion of wall construction. Bamboo stems, sticks of timber and midribs of palm fronds were used for the skeletal framework, while thatch material served as roof covering. Igala traditional houses had conical hipped roof. The roof truss comprised of wall plates, tie-beams, king posts, purlins and sometimes struts. Roof coverings were thatch leaves and pill-grass (See Figures 4.48).

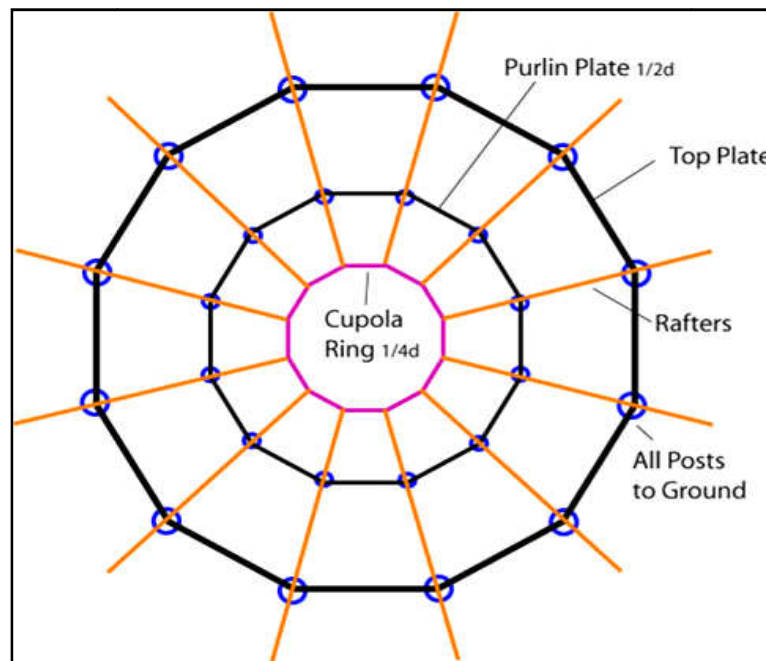


Fig 4.48: Plan of Typical Traditional Conical Roof.

Source: <https://images.app.goo.gl/rHSmzcgVR16Jggwz9>, 2017.

The roof was supported by forked timber posts, usually four in number positioned in the wall and driven into the foundation. Roof members were tied into position with strong ropes. These ropes were bush twines or fibre obtained from split and shredded midribs of palm fronds.

The wall plate was secured into position by tying it to a short piece of bamboo or timber which was pierced through the last course of the mud wall during setting



while it was still plastic and wet. The beam could either be bamboo or tree stem of the same diameter. They were tied to rafters at the two ends and then anchored to the wall plate. It also carried the king post. It carried tensile forces transferred to it through the rafters. The tie beams only run along the walls so that they do not interrupt the headroom. For the rafters, few timber and bamboo sticks were used for smaller structures such as kitchen and barns. Larger structures took a large number of separate members tied together with the interior angle corresponding to the width of the building. Rafters were made from timber or bamboo stem of small diameter (See Fig. 4.49).



Fig 4.49 Traditional Conical Roof Truss.

Source: <https://images.app.goo.gl/hXjes5gNBQuHagr17>, 2017.

The purlins consist of midrib of palm frond or split pieces of bamboo or raffia. The purlins were tied to the rafters at right angles to each other (See Fig. 4.50). They were laid horizontally along the direction of the longer side of the building. The space between two purlins was quite close in order to support easy laying of the thatch leaves. The space was about 300 millimetres.



Fig 4.50: Internal Structure of Igala Traditional Conical Roof Showing Purlins and Rafters.

Source: Field Survey (2017).

The major traditional roofing materials were thatch leaves, pill-grass and palm fronds (See Fig. 4.51). Two or more of these could be combined to roof a house. Constructing the roof coverage was done by binding grasses or palm fronds closely together. The materials were placed in layers one on top of the other creating the desired thickness and in a manner that prevented rain water penetration (See Fig. 4.52).



Fig 4.51: Processed Grass Placed on Roof Truss Ready for Covering.

Source: <https://images.app.goo.gl/ygseVumKUzcfNq5y5>, 2017.



Fig 4.52: Igala Traditional Roof Truss and Thatch Roof Covering.  
Source: <https://images.app.goo.gl/Rv5FyRmoWdeLnLFP9>, 2017.

#### **4.3.7 *Decoration and Ornamentation***

Decorations are not done arbitrarily, but rather, they are found in specific areas of buildings on which they are concentrated. Places of high structural stress like door and window lintels all received a lot of attention. Entrances of houses are of great importance in Igala tradition, since they served as transition zones between public and private space or between public and semi-private space. The entrance of the Igala traditional house is well decorated to impress visitors (See Fig. 4.53). Decoration was also done in room interiors. Floors are sometimes decorated but most people just covered the floors with woven mats. Interior walls were also sometimes decorated. In many parts of Igala land, traditional house decoration was an integral aspect of the total construction process. Finishes were thus sometimes not distinguishable from decorations, since finishes were themselves inherently decorative. Some other decorative materials were however not necessarily integral to the construction process. These were added unto the surface of the structure designated for decoration. Objects like pebbles and wood ash were sometimes used to enhance decorative patterns. These were pressed unto the mud or plaster in its wet



state, and when it dried up, the objects became integrated into the design. Unlike the Hausas of Northern Nigeria, the Igalas had no motifs peculiar to them.



Fig 4.53: Igala Traditional Building Wall Decoration.  
Source: Field Survey (2017).

#### **4.3.8 Maintenance Practice**

Maintenance is a major aspect of the Igala traditional building technology because of the poor durability of local building materials. Crack on walls and floors are constantly patched up using mud or red earth that had been plasticised. Floors are periodically washed and polished to maintain its shine and gloss. Roof coverings are also periodically replaced usually after every rainy season. Fence materials were also periodically replaced with fresh ones. Maintenance works are usually carried out after and before the rainy season.

#### **4.4 Values of the Igala Traditional Architecture**

The Igala traditional architecture is unique and of great values to virtually all aspects of life of the Igala people; culturally, traditionally, morally, religiously, socio-economically, socio-politically and environmentally. Some of the values of the Igala traditional architecture identified in this study are presented in this section of this thesis.

1. The Igala traditional mud house is designed and built to take the form of the cave shelter which was the house of the cave Igala man; performing the same functions as the caves such as security from reptiles and wild animals, provision of privacy, regulation of temperature, protection from elements of weather to mention a few. The Igala traditional mud house was reminiscent of the cave man shelter. This was also the reason for the practice of the circular curvilinear house form. The functions and spaces in the house form were so planned and arranged in a manner that provided efficient functional flow, effectively serving and preserving the people's culture and tradition. The Igala people developed their own technology largely by trial and error, exploring the vast availability of building materials to create an architecture which they regarded as their own. The Igala traditional architecture was integrated into the traditional Igala village setting. The Igala traditional village setting was known to have a cultural and traditional core which was regarded as Ceremonial Square, a replica of the courtyard in the Igala traditional house form.
2. The Igala traditional architecture was patterned along traditional principle of zoning. The major zones are:
  - a) The domestic zone which comprised the dwelling area and area for leisure activities such as sleeping and rest.

b) The socio-cultural zone consisting of the courtyard, reception hut and shrine.

These spaces are used for socio-cultural and religious activities such as meetings, plays, chores, ceremonies and religious worship.

c) The socio-economic zone consists of the animals' pen, garden and barns.

Activities such as storage of food crops, gardening and animal farming are carried out in this zone.

The zoning took cognisance of the arrangement of individual huts in a manner that depicted cultural hierarchy. The man's hut was located in front at the entrance of the compound, the wives'/females' huts were located next to the man's but at both sides of the compound, and then the males' huts were located at the rear of the compound. The man protected his family and exercised full control over his compound. The boys who were usually adults were located at the rear of the compound from where they could easily access the farm land through the rear exit, and then the women were secured in-between and near their husband and father. It is pertinent to note that the Igala traditional zoning principle in the compound architecture is replicated in the Igala socio-spatial setting and traditional village settlement pattern. The major zones in the Igala traditional village setting included the Administrative/Residential Zone which accommodated the quarters of the Village Head and the residential settlement; the Socio-economic Zone which accommodated the market and other commercial activities; and the Public Space which accommodated socio-cultural and religious activities.

3. The Igala traditional architecture allowed for organic growth of the compound, creating the possibility of expansion. Communal association/unity was an integral part of the Igala family and larger society. Extended families lived together in one compound. As the number of family members increased, the size of

the compound consequently increased. A male member of the family continued to live in the compound with his parents even after marriage. A divorced daughter was accommodated in her mother's hut. New huts were constructed as the need arose (See Fig. 4.54).

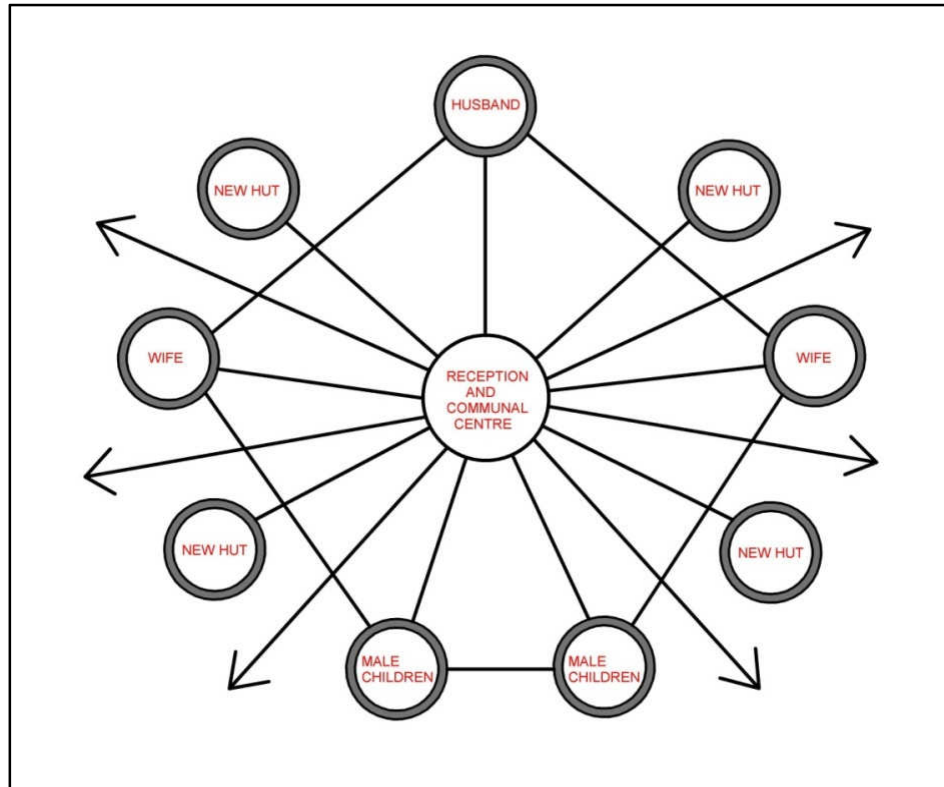


Fig 4.54: Pattern of Organic Growth of the Igala Traditional House Form.  
Source: Field Survey (2017).

4. The Igala traditional architecture supported the domestic, socio-cultural and socio-economic lifestyle of the members of the family by providing adequate security and privacy. The compound was secured in a perimeter fence and the hut of the man (owner of the compound) was located at the entrance to the compound where he was able to properly monitor visitors and intruders. The perimeter fence screened the family members from exterior view as they carried out their domestic activities. Even when visitors were received, they were not allowed beyond the reception hut. This provided members of the family with adequate privacy in their

private huts. The Igala traditional windows were usually small in size. This was to ensure adequate privacy and security especially at nights when it is believed that evil spirits, witches and wizards roam freely in the village in search of their victims.

5. The Igala traditional religion was an integral part of the life of the Igala people. The Igala man was religious and completely dedicated to his deity. The deity was the mediator between him and his ancestors. He sought and got answers from his ancestors through his deity, and he sought and got protection from diseases and enemies through his deity. The deity was the judge over the affairs of his family. Morality was entrenched by his culture and preserved by his deity. Hence, the integration of shrine as an integral part of the Igala traditional architecture. Unfortunately, religious pluralism in Africa and particularly Nigeria, and the wide acceptance, facilitated by the Europeans gradually eliminated the shrines from the Igala traditional architecture. Presently, the Igala man is disconnected from his ancestors, left at the mercy of foreign religions that he continues to doubt their potency.

6. The Igala traditional architecture took into cognisance the socio-economic lifestyle of the people by the incorporation of spaces meant for socio-economic activities. The Igala people are predominantly farmers. In Igala traditional house form, barns were incorporated for food storage, spaces were provided at the rear of the compound for vegetable farming and animals were reared and kept in pens.

7. The Igala traditional building materials and Igala traditional building technology produced buildings that were sustainable and depicted the people's architectural identity. The mud walls, mud floors, timber posts, timber lintels, timber doors and windows, timber rafters, bamboo struts and purlins, thatch roof, weaved platform to mention a few; all form the Igala traditional building elements.



The interior of the Igala traditional house was traditionally furnished with bamboo frame bed, log of timber placed on earthen seats and clay water pot. The Igala traditional building materials were in abundant supply, economically viable, reusable, sustainable, biodegradable, easy to manipulate and easy to maintain. They produced buildings that were environmentally friendly and suitable for the climate of the region.

8. A majority of Igala people practiced polygamy before European influence. Igala society is agrarian and farming was the mainstay of the people. The more the number of wives and children a man possessed, the greater the manpower to cultivate his farm, and this increased his economic status. The Igala traditional architecture took cognizance of communal dwelling resulting from the practice of polygamy. For example, the Igala traditional house form had organic growth pattern and the capacity of expansion whenever there was increase in the family size.

Based on these results, it can be seen that the key intrinsic features of the Igala traditional architecture are:

- i. Hierarchy of space as an integral part of Igala culture and identity
- ii. Provision of security through the strategic location of the hut of the head (husband) of the compound and fencing.
- iii. Compound setting: shows communal living thereby encouraging communal association and unity
- iv. Presence of shrine for religious activities
- v. Presence of reception hut for socio-cultural activities.
- vi. Presence of garden, barn and animals' pen for agricultural activities.

- vii. Presence of several huts for the man's wife which is a reflection of Igala culture of polygamy and creation of human resources for socio-economic activities through multiple child bearing
- viii. Use of earth, grasses and forest resources as well as inclusion of impluvium for environmental sustainability.

#### **4.5 The Nature of Transformational Changes in the Igala Traditional Architecture (1800-2017)**

The investigation into the transformational phases of the Igala Traditional architecture between 1800 and 2017 was divided into distinct era based on the established architectural epochs, namely; pre-colonial movement, colonial movement, post-colonial movement and contemporary movement.

##### **4.5.1 *Pre-colonial Igala Architecture (Period before 1860)***

This is the period referred to as the pre-colonial movement. It was observed that there are certain peculiar and unique qualities that characterized each people, as humans in this era. The Igala language was one distinguishing factor of the Igala people, others include their religion, beliefs, communal life traits, which were also always expressed in their architecture. In particular, as earlier discussed in this study, the Igalas have a peculiar and unique traditional architecture. This can be seen in their house form, building materials and building technology. In the pre-colonial period before 1860, the Igala people practiced the circular curvilinear house form across the region. In every kindred in Igala land, there were individual compounds. The number of wives married by the man determined the number of houses in a compound. Agriculture was the mainstay of the people and if one would be a

successful farmer, he would marry many wives in order to have many children and increase the labour force for his farming enterprise.

The Igala traditional architecture was typical of the cave environment which was inhabited by the Igala ancestors prior to the development of house building culture. Hence the essential requirements at the cave habitat were provided in the house environment. For instance, the cave provided warmth, shelter and defence against animals particularly from reptiles and wild animals. Similarly, the house was fashioned to provide these basic necessities of life for the inhabitants.

The wall of the house during the pre-colonial period was essentially round. This was designed after the structure of caves whose walls were usually virtually round in shape. The house had thatched roof (See Fig 4.55).



Fig 4.55: Pre-colonial Igala Traditional House Form.  
Source: Field Survey (2017).

#### ***4.5.1.1 Method of Construction of Pre-colonial Igala Round Hut***

The round house walls in the pre-colonial period in Igala land were constructed with any soil type available in any environment. The available soil types included clay, sandy-clay and the third type is a mixture of loamy, sandy and humus soil. The common method of preparing each of these soil types for use in wall construction involved excavation of a heap of soil needed for puddling, and then some quantity of water was poured onto the heap of soil to make it wet enough before puddling. When puddling is completed the mud was ready for use. There is no accurate record on when clay mining commenced in Igala land. However, it is germane to note that this enterprise cannot be discussed effectively in isolation of the traditional uses of clay. The two appreciable uses of clay in Igala land are for house construction and pottery industry. It is not certain which of these uses of clay pre-dated the other. For example, archaeological reports indicate the use of pottery items in parts of nearby Igbo land at least, since the Late Stone Age. For instance, the archaeological sites at Ukpa rock shelter Afikpo (Afigbo, 1980), in the present day Ebonyi State; Ugwuagu rock shelter Abakaliki (also in Ebonyi State), and the Igboukwu site of the 9th century A.D 17, reveal evidence of pottery sheds, which point to the fact that pottery materials were used in parts of Igbo land at such an early period. But there are no such archaeological reports on clay wall buildings (Chukwu, 2010). Availability of such records would have been very helpful in dating the culture of clay-wall building in parts of Igbo land. However, absence of such archaeological reports on clay-wall culture in Igbo land as well as in Igala land may not justifiably lead to a conclusion that pottery predated clay-walling culture in both regions. Pottery items would appear to have some advantages over clay wall in terms of durability and preservation. For instance, firing of clay transforms the weak texture of pottery

product, thus hardening the clay particles and making it almost impossible to be disintegrated by flood or any thermal condition.

Conversely, clay-wall building lacked such a durable capacity, once it was exposed to rain or flood, it absorbed water, then collapsed and ultimately got washed away by flood. But no matter the pool of archaeological artefacts in favour of pottery, one thing is clear; house (shelter) was an inevitable essential of life, while pottery product was only a technology of a settled man. Thus, clay-wall culture must have pre-dated pottery culture in Igala land. Based on the above premise, one would be right to establish a claim that by the late Stone Age, the Igalas had established or adopted the culture of living in round wall houses constructed with clay or mud and roofed with thatches.

In Igala round house construction, excavation of soil was done with shovel and local digger. A hard-wood stem which had a radius of 20 millimetres and length of about 1 metre was cut from a tree. This usually had one sharp pointed end and was the major tool used for digging the soil.

It was easier to dig the soil during rainy season. Digging the soil in the dry season often damaged the tip of the digger by making it blunt, and the difficulty posed by the use of the blunt tool often caused blisters on the palms of the user. However, continuous use of such tools hardened the palms, making them virtually resistant to blisters. Sometimes the builder made use of two or more diggers to allow for easy replacement of damaged ones. Even after the introduction of metal tools in Igala land, the local wooden tools were still used in the colonial and post-colonial periods.

Basden (1983) tried to paint a common and blanket picture of the traditional system of building clay houses among the Igbo, stressing the value and premium the Igbo

man attached to his house. According to him “the arts and crafts of the Igbo man manifest themselves first in his house. The ideas and tastes of both husband and wife are indicated by the care bestowed in the building of the house. About the middle of the wet season, clay puddling begins. The clay is broken up into clods with hoe, and left in readiness until the next fall of rain. After a shower, young men go down into the hole and puddle the loosened clay with their feet, and more water being thrown into the mixture as required to bring it to a proper consistency”. This was also applicable to the Igala people. It is not clear what part of Igbo land Basden (1983) was referring to, but certainly, clay puddling in the technical sense of the word did not apply to all parts of Igbo land. In the case of the Igala people, clay puddling applied to all parts of Igala land. The method of preparing these soil variants for a typical Igala traditional round hut was virtually the same.

Mud was the most available and important material for building construction in Igala land. The first step a builder undertakes was to carry out soil excavation (See Fig. 4.56). The excavation for mud in Igala land was practiced mostly in the rainy season. During dry season when water was scarce, there were other sources of water such as streams, ponds and springs.



Fig 4.56: Excavation of Mud for Puddling.  
Source: Field Survey (2017).

The required quantity of puddled earth for building construction was produced gradually over time. At the end of puddling each day, the produced quantity of clay was heaped in one place. Excavation and puddling could last about few days or weeks until the required quantity of mud was achieved.

Vegetable materials were used to cover the heaped mud to prevent rain from washing them away. The heaping allowed for filtration, drying or evaporation of particles of water from the puddled clay. This would increase the adhesive and gummy property of the heaped mud. During dry season, a shorter period was required to drain moisture from the puddled mud. Normally, a week of high sun intensity would drain the amount of water in a heap of puddled mud to a significant level. Also, wall construction (mud-laying process) by local masons was faster in the dry season. For hard-working masons, a week was enough to build a house of two huts which was the commonest kind of house built by the people. Another method was the use of wet puddled mud. In this case, the mud is not heaped to dry, but

rather, it is used almost immediately as it is puddled. Plastering of building was not a common practice during the pre-colonial period in Igala land. The practice of plastering dates from the colonial period. The reason buildings of the pre-colonial period were not plastered was that no one had the required tool needed for the practice. Also, farming activities often occupied the people depriving them of the time for such luxury.

As a communal society, labour in Igala land was a communal practice. Anyone can request for labour force from his kindred and the villagers. However, he should be prepared to provide food and wine for the workers during the day and evening at the end of the work. The task of mud puddling in Igala land in the pre-colonial period demanded the services of family labour force. He could also make use of the labour force from the extended family members (See Fig. 4.57).



Fig 4.57: Communal Labour in Traditional Building Construction.  
Source: <https://images.app.goo.gl/aVXQU2Vkjz1T3fik8>, 2017.

Clay was the best of all the soil types available for building in Igala land. It had some advantages over the others. Clay had fine particles, it was gummy and the



compatibility of its particles was comparatively high. The method/technique for wall construction in Igala land was common for every traditional round hut in the pre-colonial period.

Two methods of wall construction were practiced, the monolithic method and the wattle and daub method (See Figures 4.58 and 4.59). The people usually established solid foundations for their buildings. The foundations were as broad as between forty and sixty centimetres (600 millimetres). The size of the hut determined the diameter of the foundation trench. A deep foundation trench provided structural stability for the building. During building construction, as the wall laying progressed upwards, the wall thickness is gradually reduced, so that at lintel level, the thickness had reduced to just about one foot (300 millimetres). Wall laying exercise was carried out gradually and slowly.



Fig 5.58: Typical Monolithic Wall Construction Process.  
Source: Field Survey (2017).

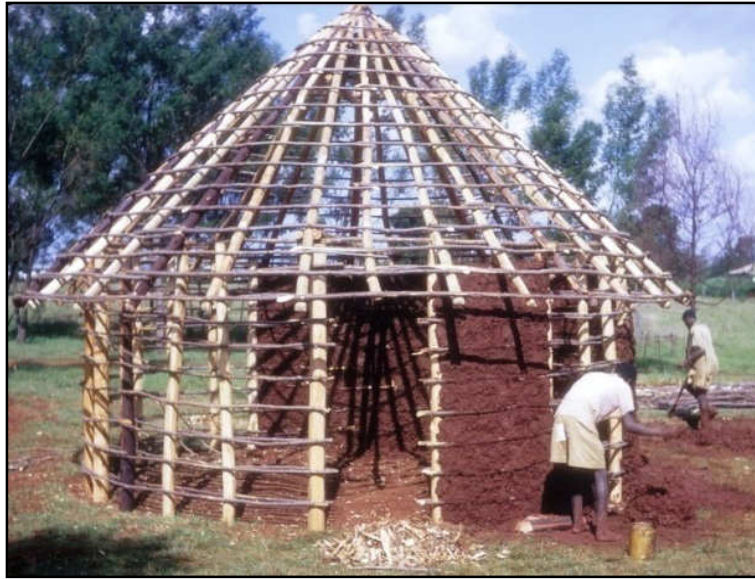


Fig 4.59: Wattle and Daub Wall Construction.

Source: <https://images.app.goo.gl/BXkTKcKgoZET1JZk8>, 2017.

According to Chukwu (2010), “it is interesting to note that the common name for the traditional Igbo man’s house was “thatch house”. This is derived from the common material with which his house was roofed. This is what the Igala traditional house is also called. It is referred to as “*unyi egbe*” in Igala. There was a common and similar pattern of roofing Igala traditional buildings in the pre-colonial period. The commonest roof design at the time was pitch roof. Pitch roof design requires first, weaving the skeletal framework using timber or bamboo poles and slices of bamboo poles. A number of timber poles were used as rafters which slopped from the roof apex and rested on the walls of the building. These timber rafters were criss-crossed with purlins which were usually midribs of Palm fronds or lengths of small or sliced bamboo poles. At various points, the sloping rafters and the purlins were knotted or tied to ensure formidable roof strength. This was necessary to avert incidence of the building or the roof affected by the wind. At the end of the networking process of the roofing, the entire skeletal framework of the roof was hooked at various points of the

walls of the building using strong loops and pegs to ensure a common central force for the entire structure (See Fig. 4.60).



Fig 4.60: Traditional Roof Truss Construction.

Source: <https://images.app.goo.gl/hXjes5gNBQuHagr17>, 2017.

Grassing or thatching was the next stage. The most common materials used for thatching were pill-grass (*imperata cylindrica*). Quantities of grasses were cut using the machete, sometimes bare hands were used to uproot the pill-grass when machetes were not available. The grasses were collected in little bundles, and then processes by drying in the sun. When ready for use, the grasses were tied to the purlins. There was hardly any gap between one pinch of the grass bundle tied on a particular spot on of the purlin and the pinch of the bundle next to it. The grass forming the top layer of the roof overlapped the ones underneath them. A well-constructed roof had a conical shape (See Figures 4.61, 4.62 and 4.63).



Fig 4.61: Traditional Roof Thatching.

Source: <https://images.app.goo.gl/Rv5FyRmoWdeLnLFP9>, 2017.

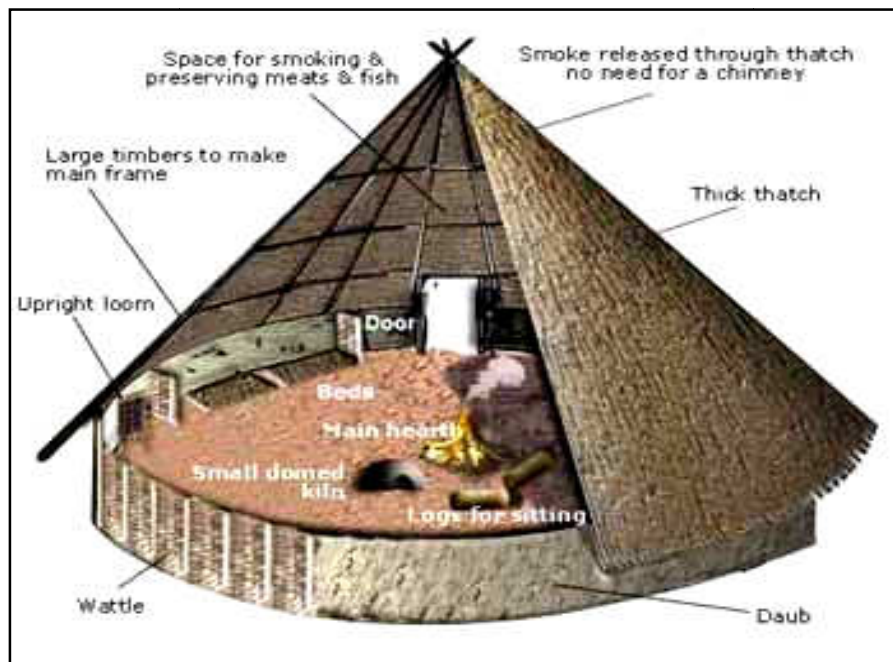


Fig 4.62: Typical Structure of Pre-colonial Igala Mud House.

Source: <https://images.app.goo.gl/waHaV51Nk236QMKf8>, 2017.





Fig 4.63: Pre-colonial Igala Traditional Buildings.  
Source: Field Survey (2017).

Thatch houses had some advantages. One of which is its ability to regulate temperature. Thatch materials were poor conductors of heat. One of its disadvantages is; it was easily gutted by fire especially during dry seasons. Apart from act of carelessness by occupants, careless attitude of hunters could set surrounding bushes including thatch houses on fire. It is important to note that this technique of roofing traditional Igala houses was not restricted only to the pre-colonial period. In the remote areas of Igala land, the technique continued into the colonial and post-colonial period.

#### **4.5.2 Colonial Igala Architecture (1860 - 1960)**

The Colonial era witnessed European influence on Igala land, which introduced individualism, removing the people's age-old practice of communalism. Several significant changes took place during this period. The influence of European culture and life style started producing a new class of elite professionals, businessmen, and politicians. The Igala land was fast in imbibing this foreign influence. Religion,

education, social and family life began to witness a hybrid of the African and European styles. As people began to move away from polygamy, family sizes began to shrink. Single unit houses began to appear, yet a difference could be seen in the upper class housing which was built with materials introduced by the Europeans which included concrete, corrugated iron roofing sheets, processed timber, metal bars and glass. Wealthy elite political class, businessmen and professionals could afford these styles of housing.

The introduction of Christianity and Islam largely discouraged the practice of Igala traditional religion. In so many communities, the hut for the deity phased out, also phased out was the perimeter fence erected by the head of the family to protect and define his compound. The western architectural design introduced in the colonial period was the model which greatly influenced the Igala traditional building design at that time.

The pre-colonial Igala architecture survived into the colonial period with significant changes. These changes affected the general pattern of house form and building form. They include the following;

- i. Building forms transformed from curvilinear shapes to rectilinear shapes.
- ii. House form generally took rectilinear shape as a result of rectilinear building form.
- iii. Buildings accommodated more rooms.
- iv. Family sizes reduced because polygamy was gradually phased out as a result of the influence of new religions especially Christianity.
- v. The shrine was transformed into church and mosque as a result of the influence of new religions of Christianity and Islam. The two major religions introduced in Igala land in the colonial period.

- vi. The reception hut was phased out and was incorporated into the husband's house as a living room. In some few areas it was retained but relocated from the centre of the courtyard to the side.
- vii. Bucket latrine and pit latrine were introduced as part of the house form by the elites, most families in many areas of Igala land still practiced open defecation in the bushes.
- viii. The South-East part of Igala land introduced impluvium as part of their house form thereby adopting the impluvial house form.
- ix. Perimeter fence was removed from the house form.
- x. Fenestrations increased in number and size.
- xi. Metal drums were introduced in the courtyards to store water collected from the corrugated iron roof, and also from the stream.
- xii. Thatch roofs were replaced by corrugated iron roofing sheets.
- xiii. Barns were phased out in most places and were incorporated into building designs in the form of storage.

Major changes in the Igala architecture as a result of European influence include the introduction of the following;

- i. Skilled and paid labour in building construction.
- ii. Rectilinear building form.
- iii. Single unit house which was afforded by only very few elites.
- iv. Gable (pitched) roof and hipped roof designs.
- v. Corrugated iron roofing sheets.
- vi. More rooms, spaces and functions.
- vii. Mud bricks for walling.
- viii. Metal bars as lintel and beam.

- ix. Metal doors and windows.
- x. Cement sand screed floor finish.
- xi. Cement sand wall plastering.
- xii. Painting.
- xiii. Bucket latrine and pit latrine.

#### **4.5.2.1 *Structure of Colonial Igala Traditional House Form***

- i. Single unit houses were rare and only common among the few elites in Igala land in the colonial period. The Igala traditional architecture of house form was still widely practiced but with significant transformation (See Fig 4.64).  
The major parts of the colonial Igala traditional house form include:
  - ii. The husband's house.
  - iii. The wife (wives) house(s).
  - iv. Adult males' house.
  - v. Animals' pen.
  - vi. Courtyard.
  - vii. Kitchen and Storage
  - viii. Impluvium which was common in the South-East part of Igala land.
  - ix. Bathroom and toilet.



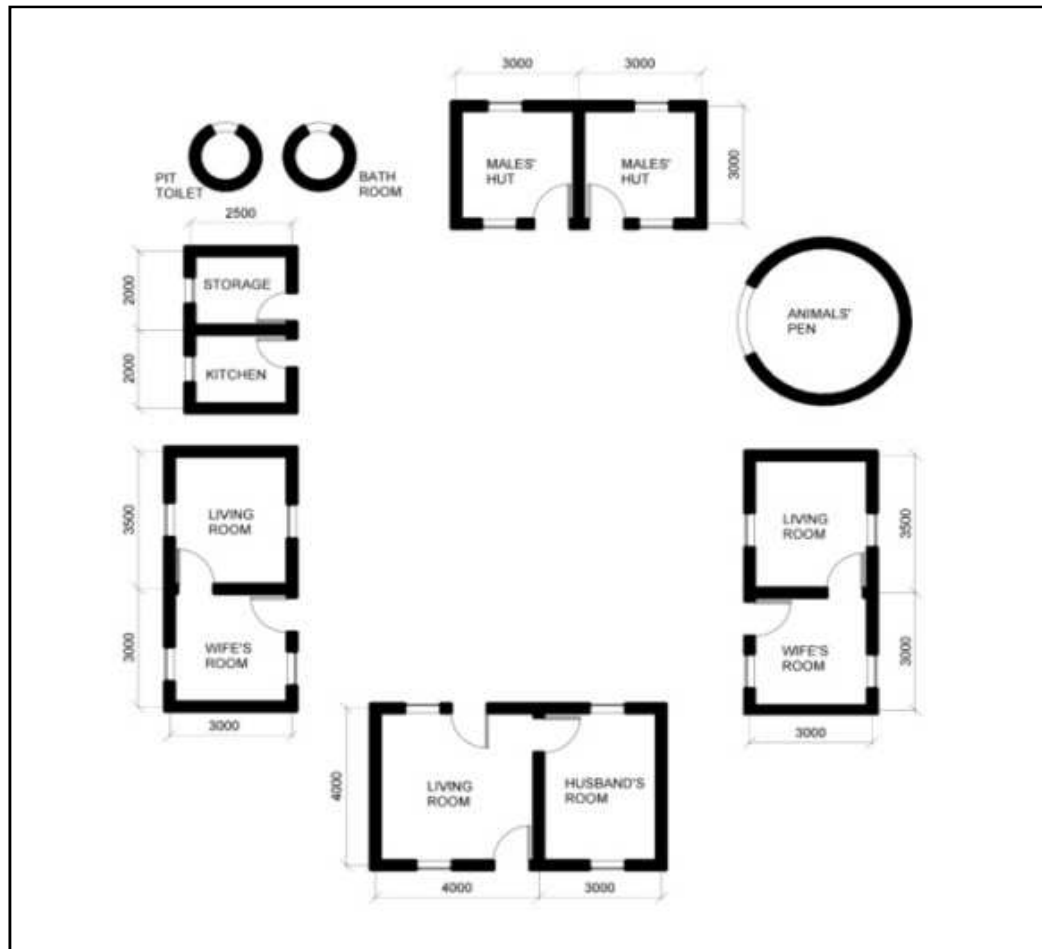


Fig 4.64: Floor Plan of Colonial Igala House Form without Impluvium.  
Source: Field Survey (2017).

In the colonial Igala impluvium house form, the impluvium was constructed outside the courtyard, at the side of the compound close to the entrance (Fig. 4.64).

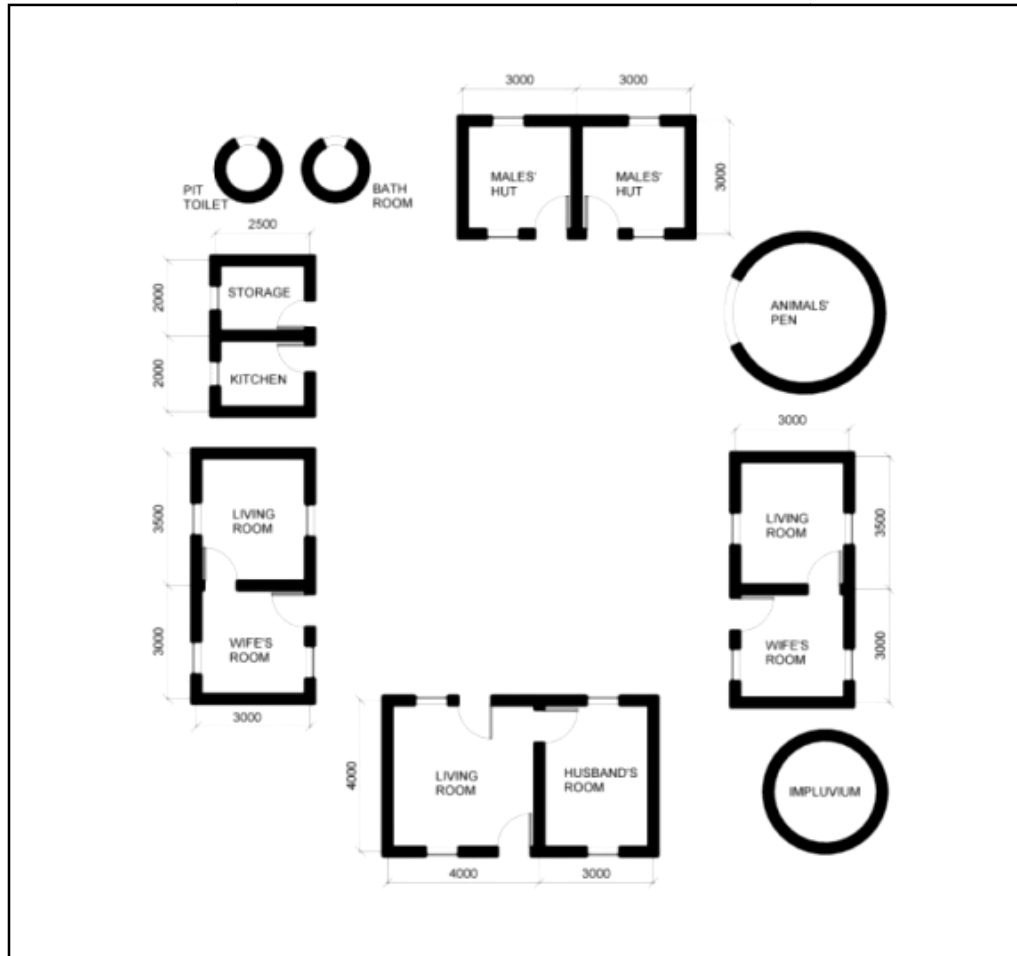


Fig 4.65: Floor Plan of Colonial Igala House Form with Impluvium.  
Source: Field Survey (2017).

#### i. *Husband's House*

The husband's house performed the same function as in pre-colonial Igala house form. It was located at the entrance into the courtyard from the main access road even though the colonial Igala house form did not have perimeter fence. The building form of the husband's house was rectilinear, having up to two or three rooms. A reception hall or living room in the middle, a bedroom at one side and a food storage at the other side. Most common husband's house had two rooms, a living room and a bedroom. The building had two exterior doors connecting the living room to the outside and the courtyard. One door is for visitors' entrance from

outside the courtyard at the opposite side while the other leads from the courtyard into the living room (See Figures 4.66 and 4.67).

The bedroom and storage were accessed from the living room. Each of the rooms was designed with a minimum of two windows. This was to provide cross ventilation. The living room performed the same function as the reception hut in the pre-colonial Igala house form; for receiving visitors, relaxation and social activities. It was furnished with wooden chairs and tables. However, the reception hut was still retained in some house forms in the colonial period, but the shape changed from curvilinear to rectilinear, and the location changed from centre of the courtyard to the side. The size of the bedroom was usually between 6sqm and 12sqm, while the living room could be as large as between 16sqm and 20sqm.

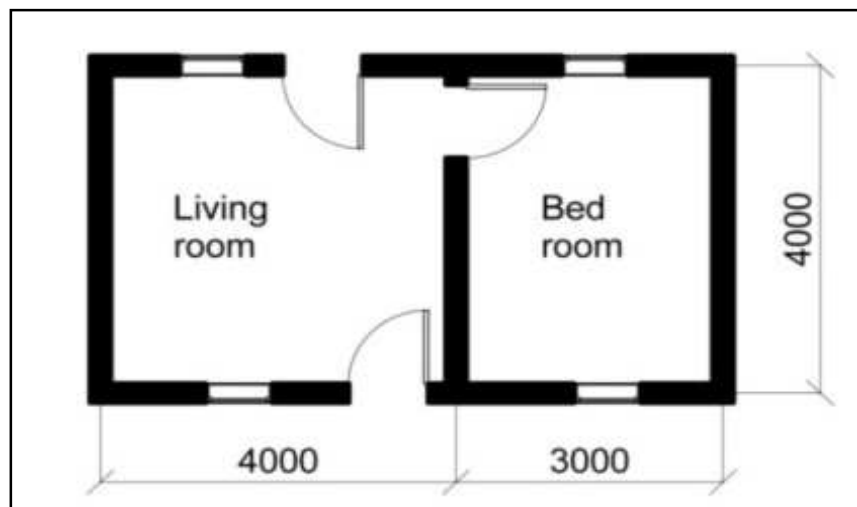


Fig 4.66: Floor Plan of Colonial Igala Two Rooms Husband's House.  
Source: Field Survey (2017).



Fig 4.67: Elevation of Colonial Igala Three Rooms Husband's House.  
Source: Field Survey (2017).

**ii. *The wife (wives) house(s)***

Most marriages in Igala land in the colonial period were monogamy. In such case, there would be one house for the wife located at one side of the courtyard close to her husband's house. Where there was more than one wife, the wives' houses were located to the left and right facing the courtyard. The building was rectilinear, usually with two rooms; one of the rooms served as living room while the other served as bedroom which was accessed from the living room. The building had one exterior door which allowed entrance into the living room from the courtyard (See Figures 4.68 and 4.69). Each room was cross ventilated with a minimum of two windows. Visitors and friends were received in the living room. The size of the bedrooms was usually between 6sqm to 9sqm while the living room could be as large as 11sqm.

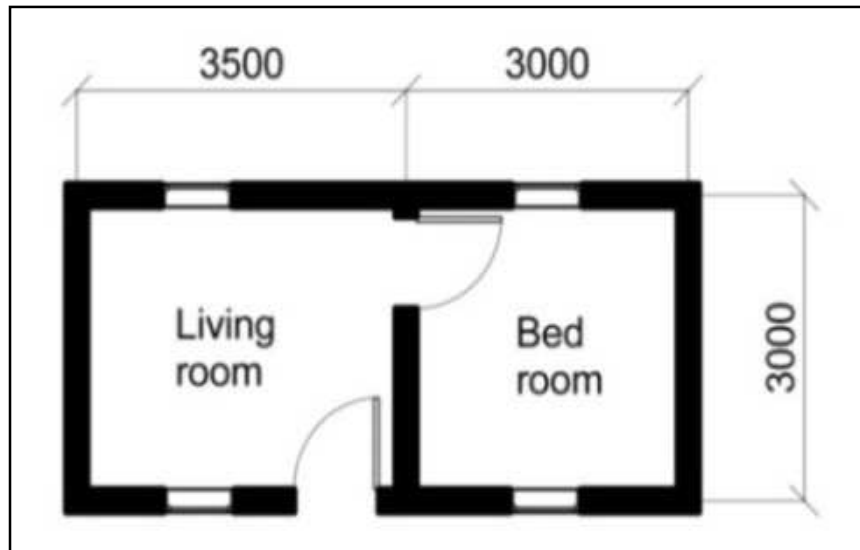


Fig 4.68: Floor Plan of Colonial Igala Wife's House.  
Source: Field Survey (2017).



Fig 4.69: Elevation of Colonial Igala Wife's House.  
Source: Field Survey (2017).

### iii. *Adult Male Children's House*

Like it was practiced in the pre-colonial period, younger male children stayed with their mother until they were old enough to share rooms with their older brothers. Adult males had their house at the rare of the courtyard away from the women's huts

and directly opposite that of their father. All unmarried adult male children continued to eat from their mother's pot and maintained their rooms within the compound until they were married. Their house could have up to two rooms depending on the number of male children to be accommodated (See Figures 4.70 and 4.71). The rooms were accessed from the courtyard. The size of the rooms was usually between 6sqm and 12sqm.

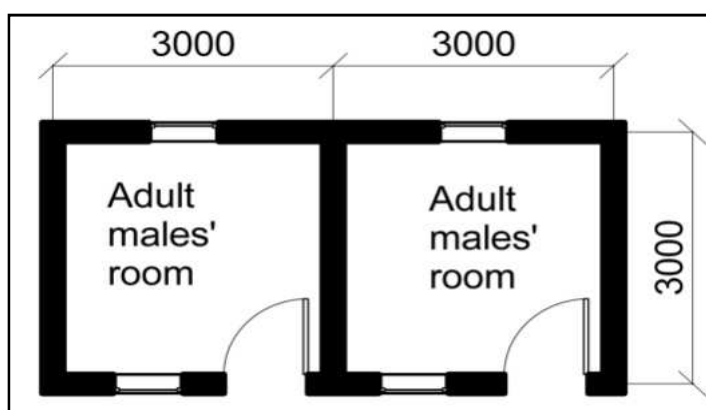


Fig 4.70: Floor Plan of Colonial Igala Two Rooms Adult Male Children's House.  
Source: Field Survey (2017).



Fig 4.71: Elevation of Colonial Igala Two Rooms Adult Male Children's House.  
Source: Field Survey (2017).

#### iv. *Animals' Pen*

There were no significant changes from the way animals were reared in the pre-

colonial period. Domestic animals reared by families were mainly goats and chickens. A frame structure was usually constructed with timber or bamboo stems and the stems of palm fronds. The top is thatched to house the goats. In such case, the male children cut leaves and grasses from nearby bushes every morning and evening to feed the animals. The animals were also allowed out of the pen occasionally. Sometimes the animals were reared in a free range system. In that case, they wandered around freely and laid about in the compound. The floor area of the pen was usually between 12 sqm and 20 sqm.

#### **v. *Courtyard***

The only significant changes to the courtyard in the colonial period were the removal of the reception hut, or relocation from the centre in some cases. And also, the change in the shape of the courtyard from circular to rectilinear. The courtyard remained an integral part of the Igala traditional house form in the colonial period. Even elites who constructed buildings with sandcrete hollow blocks also incorporated courtyards. Sometimes such courtyards had their floors paved with concrete. The courtyard provided space for the women to carry out household activities, occasional meeting place for members of the family, and playground for children under close supervision of their parents. The courtyard also served as a sleeping place during the hot hours of the tropical days and nights. The area of the courtyard was defined by the buildings (See Fig. 4.72).



Fig 4.72: Courtyard of Colonial Igala House Form.  
Source: Field Survey (2017).

**vi. *Kitchen and Storage***

Even though open-air cooking was still practiced up to the colonial period, many families constructed a kitchen in the compound. Thus, the traditional Igala house form in the colonial period had a separate house used as kitchen. The kitchen was constructed at the side of the compound, close to the wife's house and faced the courtyard. It took the rectilinear form and was roofed with corrugated iron roofing sheets like other buildings that constituted the house form. In a family where there was one wife, it was usually a two rooms building accommodating a storage, and each room was accessed separately from the courtyard (See Fig. 4.73). Where there was more than one wife, the building was partitioned according to the number of wives. The size of the rooms was usually between 6sqm and 9sqm.





Fig 4.73: Kitchen and Storage in Colonial Igala House Form.  
Source: Field Survey (2017).

#### **vii. *Impluvium***

The colonial period saw the introduction of impluvium in the house form. The impluvium however, was adopted in the South-East part of the region that was close to the Igbos of South-East Nigeria. This area comprised majorly two local government areas, Ankpa and Olamaboro Local Government Areas. In this part of Igala land, the impluvium was constructed in the courtyard to collect and store rain water from corrugated iron roofing sheets. Alternative collection of water was from streams and rivers.

#### **viii. *Bathrooms and Toilets***

The design of bathrooms in the pre-colonial Igala house form was retained in the colonial period. Apart from the use of palm fronds for constructing the walls, corrugated iron roofing sheets and flat pieces of timber were introduced. The iron sheets were nailed to timber posts or bamboo stems, the top remained uncovered in the colonial period. Only few families especially the elites could afford to erect permanent structures for bathrooms. In the colonial period, the bathroom was relocated to the rear of the compound. The colonial period saw the introduction of

bucket latrine and pit latrine. But most families still used the bushes and farmlands for defecation. The latrines were constructed about 5 metres away from the courtyard at the rear of the compound, this was usually done to prevent odour from reaching the dwelling area. The bucket latrine was predominantly practiced by the elites who occupied government residential buildings. Government quarters were usually designed with bucket latrines. It was usually a bucket placed in a pit into which faeces was passed and evacuated at night by people employed by the government, these people were known as night soil men. The pit latrine was a rectangular pit of about 1.2 metres width by 1.8 metres length and 3 metres depth dug into the earth, and then logs of flat timber of width not less than 200 millimetres were placed across the breadth of the pit. A square, rectangular or round opening not exceeding a diameter of 250 millimetres was cut or created at the centre of the woods. This served as hole through which faeces was passed into the pit. The logs of timber provided floor and strong support for human weight (See Fig. 4.74).

The toilet was not left open to view, a wall constructed from bamboo and palm fronds or flat timber and sometimes corrugated iron roofing sheets was used to shield it from view (See Figures 4.75, 4.76 and 4.77). The door way was created facing away from the courtyard. Usually the toilet had no permanent door, the door way was covered with weaved mat of mid ribs of palm fronds or cloth when in use. The top was roofed with thatch to provide cover from elements of weather. The pit served as both soak away and septic tank. In a case where it got filled, it was covered up and a new site was dug.



Fig 4.74: Timber Floor of Colonial Igala Pit Latrine.  
Source: Field Survey (2017).



Fig 4.75: Colonial Igala Bathroom Constructed with Zinc  
Source: Field Survey (2017).



Fig 4.76: Colonial Igala Pit Latrine Constructed with Timber.  
Source: Field Survey (2017).





Fig 4.77: Colonial Igala Pit Latrine Constructed with Palm Fronds.  
Source: Field Survey (2017).

Later in the colonial period, pit toilets were better designed and constructed using sandcrete block wall, concrete and corrugated iron roofing sheets (See Fig. 4.78).



Fig 4.78: Colonial Igala Pit Latrine Constructed with Sandcrete Block and Concrete.  
Source: Field Survey (2017).

#### **4.5.2.2 House Type Construction**

The rectilinear house design reflected colonial buildings built by the Europeans with sandcrete blocks, mud, concrete framework and mud bricks. It is pertinent to note that only few individuals in Igala land could afford sandcrete hollow block construction in the colonial period. Government buildings dominated sandcrete hollow block buildings during the colonial period. Some Igalas continued with mud round house construction, while a majority adopted the rectilinear construction using puddled mud and mud bricks and sometimes mud bricks and cement/sand mortar for bonding (See Figures 4.79 and 4.80).



Fig 4.79: Rectilinear Mud Brick Wall Construction.  
Source: Field Survey (2017).



Fig 4.80: Mud used as Mortar.  
Source: <https://images.app.goo.gl/sycq8dcfeaynd1eb6>, 2017.

The colonial period also saw the introduction of processed timber, concrete (cement, sand and gravel mix) and metal bars, corrugated iron roofing sheets and glass. The use of these new building materials spread across Igala land even though the people could not afford them. They were seen on government public buildings and religious buildings (See Figures 4.81 and 4.82).



Fig 4.81: Colonial Igala Building Constructed with Sandcrete Hollow Block Wall.

Source: Field Survey (2017).



Fig 4.82: Colonial Igala Building with a Combination of Sandcrete Hollow Block Wall and Mud Brick Wall.

Source: Field Survey (2017).



The mud brick which was introduced in the colonial period was made from excavated earth and mixed with water thoroughly. The mixture was moulded into required bricks using a mould. The mould was a wooden box. The moulded bricks were left in the sun to dry before they were used for wall construction (See Fig. 4.83).



Fig 4.83: Colonial Building Construction in Igala Land with Mud Bricks and Corrugated Iron Roofing Sheets.

Source: <https://images.app.goo.gl/oPD1pMHuaBouHxw69>, 2017.

In the construction of mud brick wall, about two or three courses of the mud bricks were laid in one day. When the height of the door and lintel was reached, the work was stopped for twenty-four hours until the walls were thoroughly dry. The top courses were then finished.

Usually, the builder sat on top of the unfinished wall, and then mud bricks and mortar were thrown to him while he laid the bricks in rows and bonded them with mortar. As the wall increased in height, its thickness was reduced. This increased its structural stability. Doors and windows were incorporated into the structure as the

wall was built. The mud brick wall construction used only mud in laying the wall, there were no reinforcements. This method was the same as used in the monolithic construction of round mud house.

In the frame work wattle and daub method also practiced in Igala land in the colonial period, slim-size timber poles of about 2 centimetres in diameter with length of about 6 metres were used for the construction. With this technique, the wattles which were usually bamboo sticks were placed to criss-cross lengths of the timber poles starting from the base to the top of the skeletal framework, allowing for about 25 millimetres space between one horizontal level and the other. The vertical timber poles and the slim horizontal wooden poles (wattle) were tied together at various points to form a solid and compact building skeletal framework. Then balls of puddled mud would be placed on the gaps between one vertical pole and the next. The same was done to the gaps between one horizontal wattle and the other to fill the gap, and flesh up the skeletal framework of the building wall partitions. It was common in Igala land during this period to find mud brick houses roofed with corrugated iron sheets, finished with cement/sand plaster, cement/sand floor screed and paint.

Regarding labour, in the pre-colonial period, labour was carried out by the family and extended family members. But in the colonial period, colonization introduced the use of paid labour as an alternative source of labour. The colonial system brought about such capitalist influence and so many more. Consequently, builders in Igala land had the option of engaging family members and friends or using paid labour to carry out the job.

As it relates to roof construction technique, the pre-colonial Igala conical roof design was still practiced in some areas in the colonial period. However, the gable/pitched



roof plan was introduced and widely adopted during this period. Gable roof design was commonly used by the colonial officials in building office complexes and residential quarters (See Fig. 4.84). Rafters and purlins were used to construct the skeletal framework of the roof, and corrugated iron roofing sheets or asbestos sheets was used for coverage.

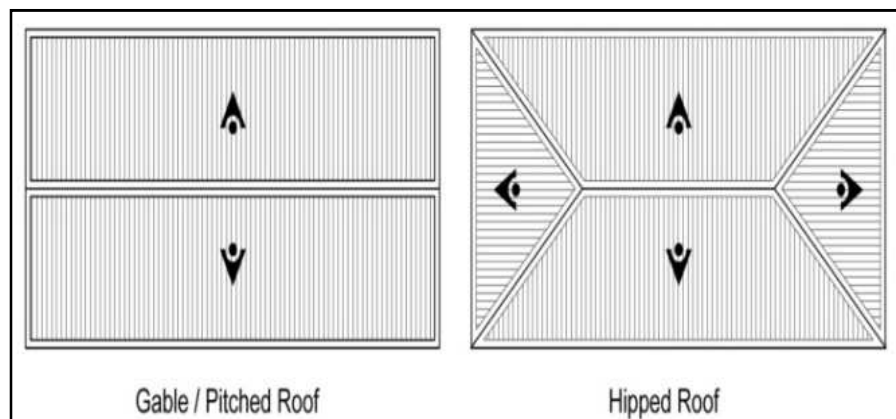


Fig 4.84: Roof Plans of Typical Colonial Igala Building.  
Source: Field Survey (2017).

The most common roof plan at the time was gable roof. It was probably adopted by the colonial officials due to its relative economic advantage when compared to other roof designs. This colonial style of roofing (gable roof design) directly or indirectly influenced the pre-colonial Igala roof design. We had noted earlier in this study that the Igbo rectilinear wall house was modelled after the colonial architectural style and pattern of gable roof, so was the colonial Igala house. However, it is worthy of note that later in the colonial period, the hipped roof design was also introduced. The colonial Igala house in the later part of the colonial period was a mixture of pitched and hipped roof designs. It is necessary to note that the adoption of these modern roof designs did not automatically mark the end of pre-colonial conical roof design in Igala land. Thatches were used by some Igalas when they could not afford

corrugated iron sheets. This was common practice among the Igalas in the remote areas.

Roof members used for construction of gable roof were timber stems and sliced stems from the trunk of felled palm trees. There were usually no fascia boards. The elites gable roof was constructed with timber rafters measuring 50mm x 100mm x 300mm and purlins measuring 50mm x 50mm x 300mm, to form the vertical and horizontal framework of the roof truss respectively. Fascia boards were also used. Nails were used to fasten them together (See Fig. 4.85).



Fig 4.85: Colonial Igala Gable Roof.  
Source: Field Survey (2017).

The practice of plastering walls of Igala traditional buildings was another influence of colonization. Colonial Igala buildings were finely plastered and sometimes painted. The earliest buildings in Igala land to adopt this practice were public and religious buildings such as church structures and parish buildings that accommodated priests. Perhaps, close contact between the Igalas and colonial officials and their agents exposed them to those and other influences of the ‘white man’. The Igalas

thus learnt the culture of plastering the walls of their houses, and even decorated them with paint (See Fig. 4.86).



Fig 4.86: Wall Plastering with Cement/Sand Mix (Mortar).  
Source: <https://images.app.goo.gl/KfQezTMMNcc9KZQy8>, 2017.

While the elites in Igala land could afford cement/sand mix for plastering and eventual painting of buildings, the commoners adopted clay as material for plastering. This method of using clay for plastering was widely practiced by majority of the Igala populace during the colonial period. Clay had plaster qualities and was therefore suitable for wall plastering. Clay also had aesthetic qualities. Plastering work was done when the walls were freshly built and still wet. Bare hands were used to collect soaked clay heaped in a vessel for the process. Cracks on the walls of the building were also corrected using clay plaster.

#### **4.5.2.3 Colonial Igala Building Materials**

- a. For foundation construction the following materials were used: mud bricks; laterite/Sand, stone aggregates, iron rods and cement
- b. For floor, mud/earth, laterite/sand, stone aggregates and cement were the common materials used

- c. Structural frames and walls were constructed using mud, timber/bamboo, mud bricks, hollow sandcrete blocks, steel bars, iron rods, stone aggregated, sand and cement
- d. The roofing comprised timber/bamboo, galvanized iron sheets, asbestos roofing sheets and steel nails
- e. Ceiling materials included timber, asbestos ceiling sheets and steel nails.
- f. Doors and windows were made from timber, steel and glazed louver blades
- g. Predominant electrical fittings included timber poles, copper wire, filament and fluorescent bulbs/lamps and ceiling fans
- h. Mechanical fittings were mainly ceramic and steel products.
- i. Finishing was done using the following, mud plaster, cement, sand, wood panelling, PVC/ceramic tiles, stone and paints.

#### **4.5.3 *Post-colonial Igala Architecture (1960-1975)***

This era falls within the post-colonial movement in architecture and the impact of colonization on the Igala architectural designs was largely significant. The style of architecture in Igala land in the post-colonial era was in two categories. The first represented Igala traditional architectural design. The second reflected a harmony of Igala traditional design and western design. While the first represented the culture of the local people, the latter satisfied the desires of the elite group. However, in the post-colonial period, modern building materials like steel, plastic and even glass were manipulated for construction the way they could not be used in the past, and this also resulted in sophistication in technology. The newly introduced building materials were more expensive, but durable and required advanced skills. Beside the building materials such as concrete, glass, metal bars, iron roofing sheets, processed timber introduced in the colonial period that were sustained and improved upon in

the post-colonial period, there was also the introduction of steel, plastic, aluminium roofing sheets and aluminium frames and tiles to mention a few.

The major changes in the post-colonial Igala building architecture include the introduction of the following;

- i. Advanced professionals and paid labour in building construction.
- ii. Introduction of advanced construction process. The production of building construction drawings and the practice of setting-out started this period.
- iii. Storey buildings.
- iv. Plastic, varieties of glass and steel.
- v. More durable and modern exterior and interior finishing.
- vi. More durable and modern furnishing.
- vii. Concrete and steel columns in buildings.
- viii. Mechanical fittings.
- ix. Electrical fittings.
- x. Kitchen in the interior of buildings.
- xi. Sandcrete block and concrete pit toilets and bathrooms and also the introduction of bathrooms and water cistern toilets in the interior of buildings.
- xii. Perimeter/Security fence and steel gate.
- xiii. Burglary proofs.
- xiv. Asbestos ceiling boards.
- xv. Corrugated aluminium roofing sheets.
- xvi. Iron cladding on steel frames screwed to fascia board.
- xvii. Ancillary facilities such as gate house and suspended water tank.
- xviii. Increased fenestrations in number and size.

xix.     Hipped roof design.

Igala house form in the post-colonial period experienced significant changes. The post-colonial period saw rapid urbanization of Igala land, with modern building designs, modern building materials and modern infrastructure. Family units disintegrated into smaller independent units, tradition and culture suffered gradual neglect, and modern jobs beside farming and hunting were in vogue. These changes affected the traditional Igala building form and general house form.

Building forms were no longer only rectilinear, they took no particular shape. In Igala urban centres, the house form was completely phased out. In the post-colonial period, the pre-colonial Igala house form could only be seen among the Igalas in the remote areas, especially where the people's tradition and culture were still strongly practiced. In the post-colonial period, family members and most of the building functions were accommodated in a large single building (See Figures 4.87, 4.88 and 4.89). Building orientation was usually done to face the access road.

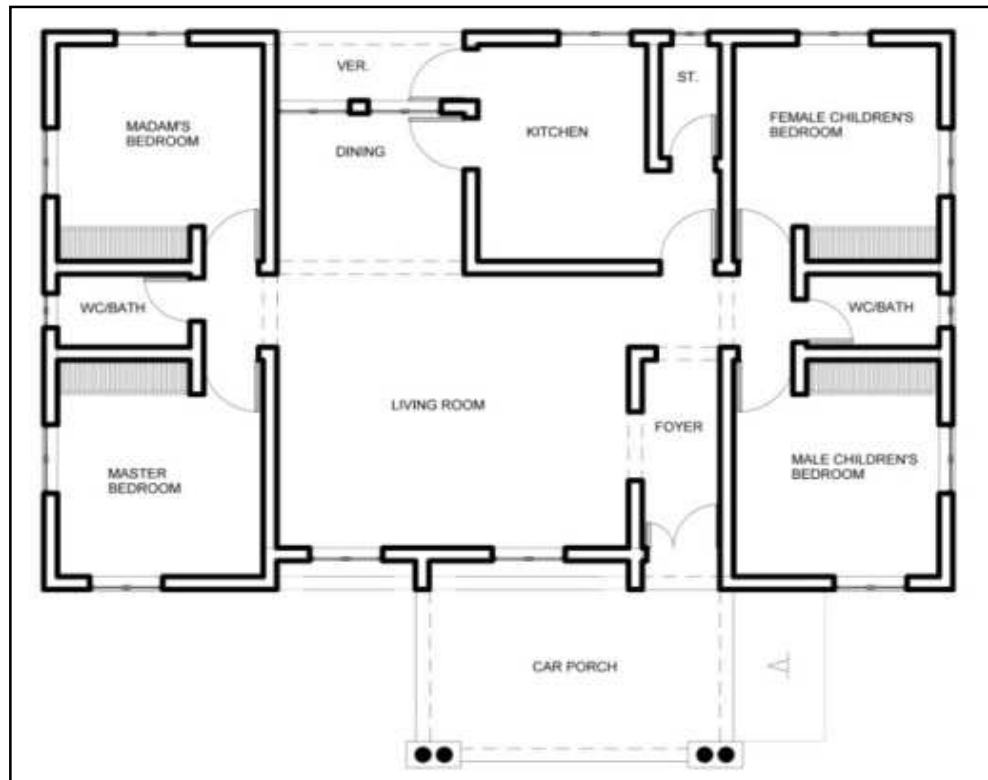


Fig 4.87: Floor Plan of Typical Post-colonial Igala Building.  
Source: Field Survey (2017).

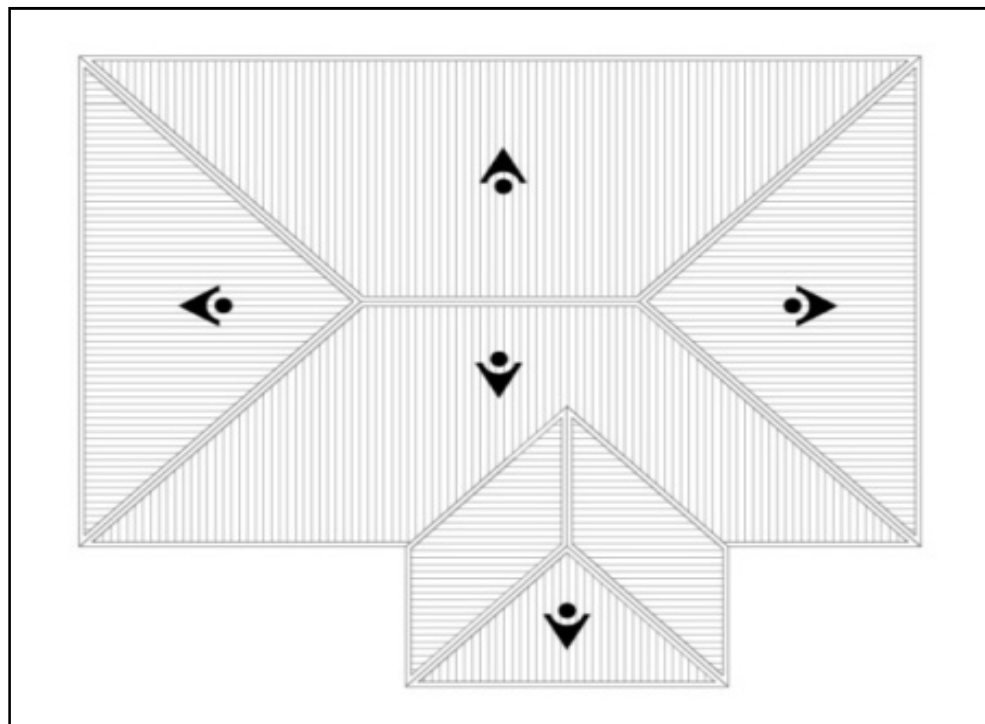


Fig 4.88: Roof Plan of Typical Post-colonial Igala Building.  
Source: Field Survey (2017).

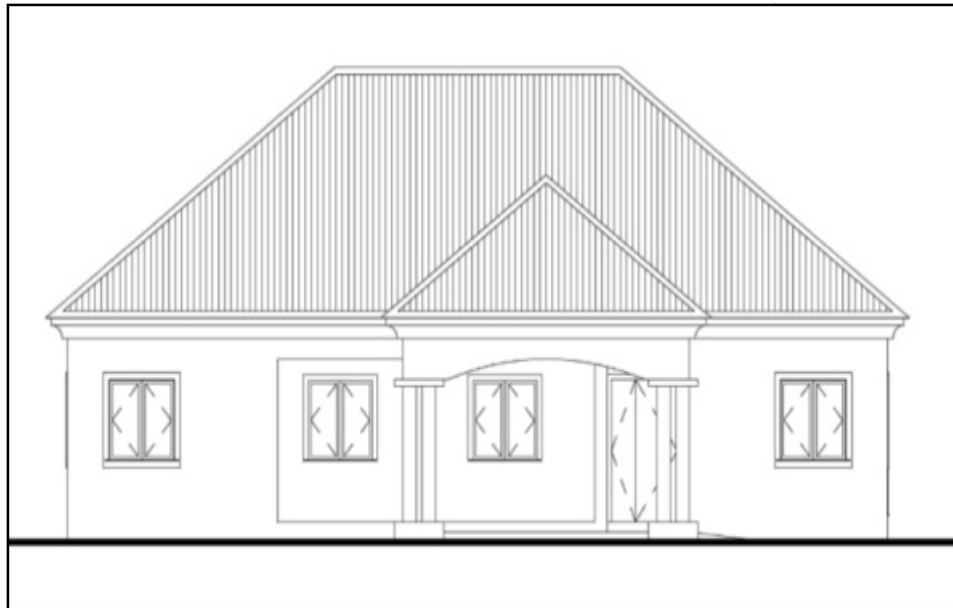


Fig 4.89: Front Elevation of Typical Post-colonial Igala Building.  
Source: Field Survey (2017).

The changes in the Igala architecture of house form in the post-colonial period include the following:

- i. All family members were accommodated in a single building.
- ii. Besides the introduction of monogamy by Christianity, education also brought family planning. All these reduced family sizes further.
- iii. Building forms adopted irregular shapes.
- iv. Buildings accommodated more functions.
- v. Car garage was introduced in building interior.
- vi. Kitchen and storage were introduced in building interior.
- vii. Pit toilet was retained. Water closet, standing shower and bath tubs were introduced in building interior.
- viii. Perimeter fence was re-introduced with steel gates.
- ix. The impluvium was still used for storage of water in the South East part of Igala land, although many parts of Igala land had access to pipe borne water during this period.



Building designs in Igala land in the post-colonial period were majorly bungalow, only few elites built storey buildings. The buildings were secured in a perimeter fence with huge steel gate. The perimeter fence defined a space which was regarded as compound and accommodated the entire building and ancillary facilities such as gate house, boys' quarter and suspended water tank. The elite Muslims constructed mosque in the compound for religious activities. These ancillary facilities were afforded by only the elites. Sometimes the post-colonial Igala building was not fenced (See Figures 4.90 and 4.91).



Fig 4.90: Post-colonial Igala Perimeter Fence and Steel Gate.  
Source: Field Survey (2017).



Fig 4.91: Post-colonial Igala Building Compound.  
Source: Field Survey (2017).

During this era building were designed to accommodate the following major spaces: (1) living room (2) dining room (3) master bedroom (4) madam's bedroom / madams' bedrooms (5) Female children's bedroom (6) male children's bedroom (7) kitchen (8) Storage; and (9) water closets and baths. However, activities such as washing and drying of clothes were carried out outside the building, usually in a space provided at the rear of the compound. Toilets and bathrooms were incorporated into the building interior. In some compounds, exterior pit latrines were retained because children were sometimes not allowed to use the water closets in the buildings (See Figure 4.92). The post-colonial Igala building architecture and planning did not represent and was not compatible the culture of the Igala people.

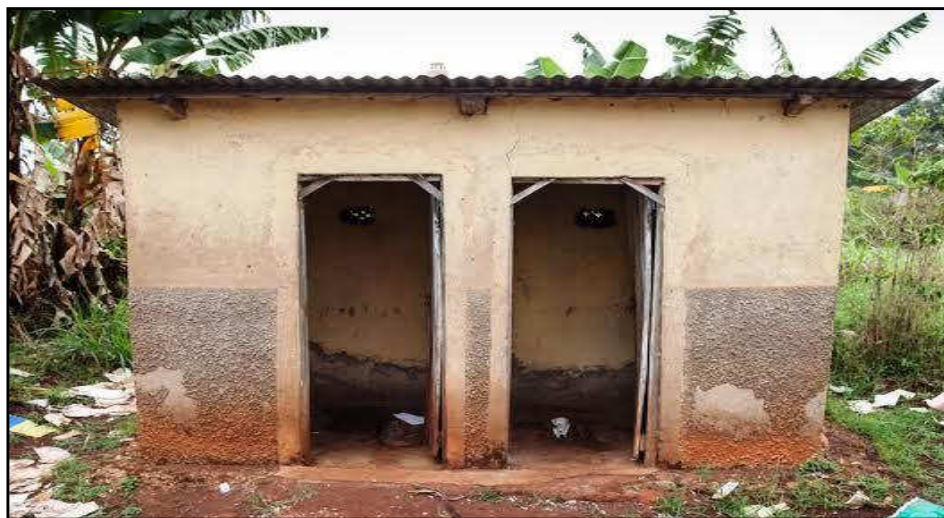


Fig 4.92: Post-colonial Igala Pit Latrine.

Source: <https://images.app.goo.gl/yscUoqNJspZcCku36>, 2017.

#### **4.5.3.1 House Construction in the Post-colonial Era**

##### **i. Walling Technique**

In the post-colonial period in Igala land, sandcrete hollow blocks were introduced in wall construction (See Fig. 4.93). However, puddled clay and other local methods for walling still continued into this period. They were the alternatives for the commoners

in the Igala society. A mixture of sand, cement and water in a specified ratio was used to manufacture the blocks. A mix ratio with a bag of cement produced about thirty (30) blocks. The blocks were bonded using mortar which comprised of the same mixture but in a different ratio. Most houses built during this period had strong foundation.



Fig 4.93: Construction of Sandcrete Hollow Block Wall.  
Source: Field Survey (2017).

Steel reinforcement rods were also used for columns and lintels to fortify the buildings. The concrete elements were constructed with iron rods, sharp sand, gravel, cement and water (See Figures 4.94, 4.95, 4.96 and 4.97).





Fig 4.94: Reinforcement Iron Rods prepared for use.  
Source: Field Survey (2017).



Fig 4.95: Construction of Reinforced Concrete Column.  
Source: Field Survey (2017).



Fig 4.96: Sharp Sand and Coarse Aggregates.  
Source: Field Survey (2017).



Fig 4.97: Mixing of Sharp Sand, Cement and Aggregates for Concrete Construction.  
Source: Field Survey (2017).

## ii. *Roofing Technique*

Common roof design in Igala land in the post-colonial period was hipped roof, although gable roof was still used. Several types of roof designs were also introduced. Even though iron roofing sheets and asbestos roofing material were still used in the post-colonial period, corrugated long span aluminium roofing sheet was most preferred especially by the elites (See Fig. 4.98).



Fig 4.98: Post-colonial Igala Building with Long Span  
Corrugated Aluminium Roofing Sheets.  
Source: Field Survey (2017).



### **iii. *Wall Plastering and Painting Technique***

In the post-colonial period, the Igalas had on their own developed special interest in things of beauty. Plastering was not only for decorative purpose, it was also a corrective measure for cracks on the walls. It also provided good finish for the surface of walls. Paint was also applied to the surfaces of cement/sand finish, and this provided a final pleasant appearance (See Fig. 4.99).

It is also pertinent to note that modern/foreign building materials, tools and technology had spread across all Igala land in the post-colonial period (See Fig. 4.100).



Fig 4.99: Painted Post-colonial Igala Building.  
Source: Field Survey (2017).

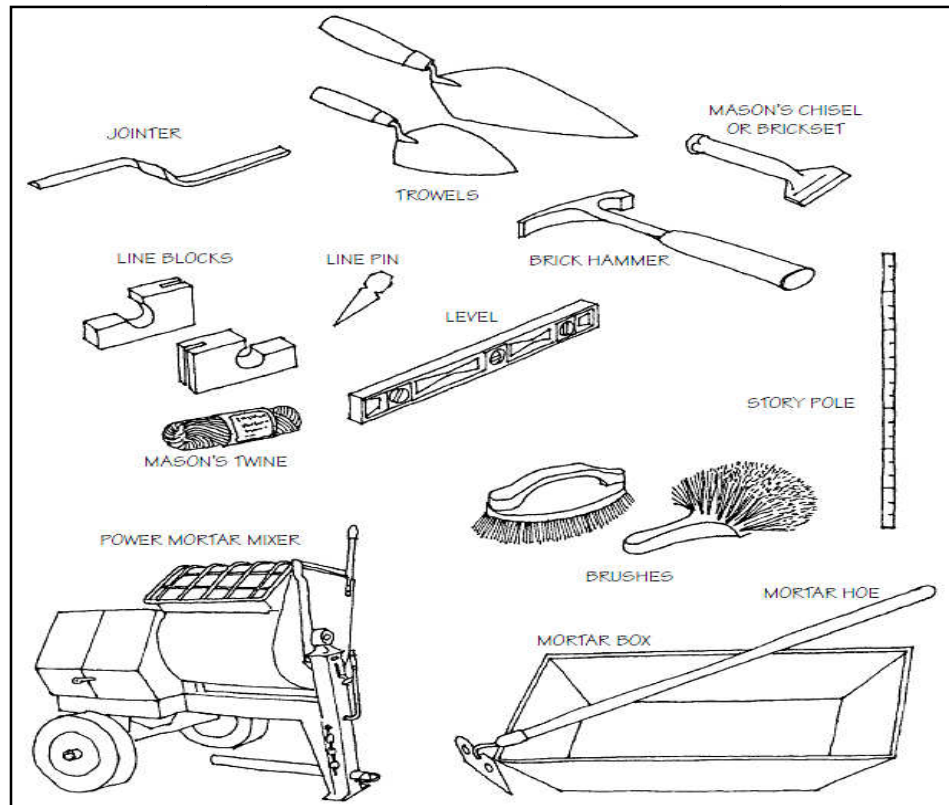


Fig 4.100: Building Equipment and Tools Used in Igala Land in the Post-colonial Period.

Source: Field Survey (2017).

Despite the tremendous influence of western culture and architecture on the lives of the Igala people, the pre-colonial Igala architecture is still practiced among certain categories of people in different parts of Igala land for different reasons such as; strong influence of culture, compatibility with environmental conditions, and affordability and availability of traditional building materials. All of these accounted for its survival over time. A significant population of the Igalas did not abandon their culture and tradition, as well as their traditional architecture.

#### **4.5.3.2 Post-colonial Igala Building Materials**

The following building materials were identified as the predominant ones used in the construction of the various building components in Igala land in the post-colonial era.

- a. For foundation, stone aggregates, sand/laterite, cement and Iron rods were the main materials used
- b. In the construction of floor, the materials used included stone aggregates, sand/laterite, cement and polythene.
- c. Structural frames and walls were constructed using hollow sandcrete blocks, stone aggregates, sand, cement, iron rods and timber.
- d. For roofing, the following materials were used: timber, galvanized iron sheets, corrugated aluminium sheets, steel and felt made from coal tar
- e. Ceilings were made of timber, asbestos sheets, steel nails.
- f. Doors and windows were constructed with materials such as aluminium, glass and steel
- g. Electrical fittings were made up of timber poles, concrete poles, copper wire, filament/florescent lamps, ceiling fans, air conditioners, electric cooker and electronic gadgets.
- h. Mechanical fittings consist of ceramic products, steel, plastic/rubber and aluminium.
- i. Finishing was done using the following materials: cement, sand, wood panelling, ceramic/PVC tiles, stone, and paint

#### **4.5.4 *Contemporary Igala Architecture (1975 - 2017)***

The Igala traditional building design changed significantly in the contemporary period, and their traditional house form completely phased out especially in the urban centres. This period came with the adoption of new building forms and composition of volumes, large and plenty fenestrations, adoption of glasses, use of concrete, use of heating and cooling systems, proliferation of foreign building materials and sophisticated construction techniques.



The contemporary Igala building form does not represent the pre-colonial Igala house form and does not reflect the culture and architectural identity of the people. No doubt, the modernization of every aspect of life of the Igala people integrated them into the new 'global' image, but their culture, architectural identity and the modern trend were not harmoniously integrated. Recent contemporary building designs in Igala land are in direct contrast with the people's pre-colonial traditional architecture. For instance, contemporary single unit house destroyed the communal lifestyle of the people. Also, their socio-cultural and socio-economic lifestyles were eroded. The contemporary Igala living room did not provide privacy as in the pre-colonial Igala house form where visitors were received in reception huts. The traditional outdoor cooking which represented the communal lifestyle of the people was replaced by indoor kitchen. Toilets formed part of the contemporary Igala building interior, but in Igala culture, toilets were separated from the living area. Contemporary Igala single unit house did not incorporate food barn and animals' pen because modernization provided alternative jobs and this gradually destroyed the people's agricultural practice which was their mainstay. In addition, contemporary Igala building materials were not suitable for the climate of the region, and the sophisticated construction technology was not affordable. For instance, Igala traditional building materials and technology were suitable for the climate of the region and provided natural regulation for room temperature. Heat ventilation and cooling (HVAC) systems were not needed. As the Igalas strived to adapt to the rapid changes of modernization, they compromised their culture and architectural identity.

#### ***4.5.4.1 House Construction in the Contemporary Era***

Contemporary Igala building construction relied majorly on imported and modern building materials, advanced building technology and the engagement of skilled and

building professionals such as Architects, Builders, Structural Engineers and Surveyors.

**i. *Setting-out***

This is the process of establishing a building structure on the ground surface. The first step in erecting contemporary Igala building is partial clearance of the surface soil, after which the building is set out using measuring tapes, pegs, profiles, building line to mention a few (See Figure 4.101). The plan is drawn on the ground by a professional builder or any technical supervisor, the trench of 700 millimetres wide is marked. Then labour is negotiated depending on the depth of the trench required which ranges between 600 millimetres and 1200 millimetres based on the structural design (See Figure 4.102).



Fig 4.101: Setting-out for Contemporary Igala Building Construction.  
Source: Field Survey (2017).



Fig 4.102: Contemporary Igala Foundation Excavation.  
Source: Field Survey (2017).

## ii. *Foundation Construction*

Foundation is a part of sub-structure designed to provide logical, structural, solid base and support for the building structure. However, there are a number of different foundation types available for use in contemporary Igala building. Common foundation construction consists of strip, pad, raft and pile foundations designed to safely sustain and transmit load to the ground and avoid undue settlements. To avoid incidence of building collapse or structural failure, before starting the foundation, a proper soil test is carried out to ascertain its bearing capacity. The foundation footing is finally constructed, and columns established in a case of storey building (See Figure 4.103). The foundation block work is laid in stretcher bond up to three or six courses, ranging from 1.0 metres to 1.2 metres filled with lean/weak concrete. The building area is filled with laterite and compacted firmly to receive the ground floor slab concrete. Hardcore filling is introduced in the case of storey building.



Fig 4.103: Construction of Foundation Concrete Footing.  
Source: Field Survey (2017).

### iii. *Ground Floor Slab (Over site Concrete)*

This is usually 150 millimetres thick, the mix ratio is (1:3:6 or 1:2:4), incorporating aggregate size between 20 millimetres and 40 millimetres, these aggregates are sometimes hand crushed. In terms of differentiation between fine and coarse aggregates, their application or performance is hardly understood. The application depends on mason's knowledge and experience. Absence of water proof material is evident in most of the concrete ground floor slabs in contemporary Igala buildings(See Fig. 4.104).



Fig 4.104: Construction of Concrete Ground Floor Slab.  
Source: Field Survey (2017).

Depending on the structural design, hard core filling is carried out on compacted laterite, and is usually of particles that are hard, durable and chemically inert. Commonly used materials are gavel and local stone. The ground floor slab is casted on well consolidated hardcore filling.

#### **iv. Wall Construction**

Wall construction in contemporary Igala building is usually up to fourteen (14) courses from ground floor slab level to roof level for a bungalow. The sizes of sandcrete hollow blocks are 6 inches and 9 inches (0.15m x 0.225m x 0.45m and 0.225m x 0.225m x 0.45m). The nine (9) inches block is commonly used (See Figure 4.105).





Fig 4.105: Construction of Sandcrete Hollow Block Wall.  
Source: Field Survey (2017).

Contemporary walls are constructed to perform the desired function of walls (strength, durability, resistance, insulation and good appearance). During the construction, doors and windows spaces are carefully carved out, the lintel which is a reinforced beam of 225mm x 240mm is constructed after nine (9) courses and a concrete head course which is a beam of the same dimension as the lintel is also constructed as the last course to carry the roof truss.

#### ***v. Roof Construction***

After achieving building height of usually 3 meters, the roof truss is then constructed, as well as ceiling joists and noggins. If it is a multi-storey building, at this stage, staircases and reinforced concrete slab of 150 millimetres thick are constructed (See Figures 4.106, 4.107 and 4.108).



Fig 4.106: Construction of Stair Case.  
Source: Field Survey (2017).



Fig 4.107: Construction of Suspended Floor Slab Formwork.  
Source: Field Survey (2017).



Fig 4.108: Electrical, Mechanical and Iron Reinforcement Works, and Construction of Suspended Floor Slab.  
Source: Field Survey (2017).

The roof truss is constructed with rafters, king posts, tie beams, wall plates, struts, fascia boards and purlins. Majority of contemporary Igala buildings adopted the use of concrete fascia instead of fascia boards. Where fascia boards are used, they are often covered with aluminium flashings or claddings. Exterior ceiling has also been cladded with aluminium. The roofing sheet is the last roof element to be installed and this is usually long span corrugated aluminium roofing sheets, aluminium step tiles or acrylic stone coated roof tiles (See Figures 4.109 and 4.110).



Fig 4.109: Contemporary Igala Roof Truss and Concrete Fascia.  
Source: Field Survey (2017).



Fig 4.110: Installation of Acrylic Stone Coated Roof Tiles.  
Source: Field Survey (2017).



#### **vi. *Finishes and Services***

This include installation of mechanical and electrical services like electrical power and lighting points, water supply pipes, waste disposal pipes, heat ventilation and air conditioning appliances. And also the insulation of the walls, floors, ceiling and duct works.

Doors and windows are subsequently installed. Contemporary doors in Igala building can be panel doors, flush doors, aluminium framed glass doors or steel doors. Windows are commonly aluminium casement glass windows (See Fig. 4.111). Asbestos ceiling boards, POP (Plastic of Paris) or Polyvinyl Chloride (PVC) ceiling sheets are usually used for ceiling construction (See Figures 4.112 and 4.113).



Fig 4.111: Aluminium Framed Glass Window.  
Source: Field Survey (2017).



Fig 4.112: Construction of POP Ceiling.  
Source: Field Survey (2017).



Fig 4.113: Installed PVC Ceiling.  
Source: Field Survey (2017).

Other equipment that are installed in contemporary Igala building include the bathroom fittings, kitchen fittings, shower enclosure, and other mechanical and electrical fittings that come on finished walls (See Fig. 4.114).



Fig 4.114: Contemporary Water Closet and Bathroom Design.  
Source: Field Survey (2017).

The techniques for carrying out these procedures differ with builders, so there is no specific method except for some common necessary pre-installation procedures. These include plastering (See Fig. 4.115), painting or installation of wall panels, installation of breakers in panel boxes if they were not pre-installed.



Fig 4.115: Contemporary Igala Wall Plastering.  
Source: Field Survey (2017).

Other installations include kitchen fittings and cabinets, and plumbing works (See Figure 4.116).



Figure 4.116: Contemporary Igala Kitchen Design.  
Source: Field Survey (2017).

Floor finish works are also carried out with materials such as floor tiles, wood, granite or marble (See Figures 4.117 and 4.118). Two or three coats of paint are then applied on both interior and exterior walls of the building (See Fig. 4.119).

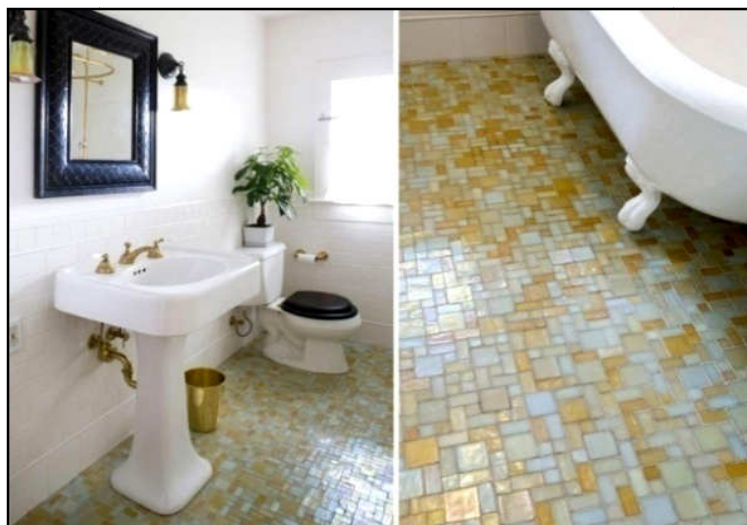


Figure 4.117: Contemporary Igala Tiles Floor Finish.  
Source: Field Survey (2017).



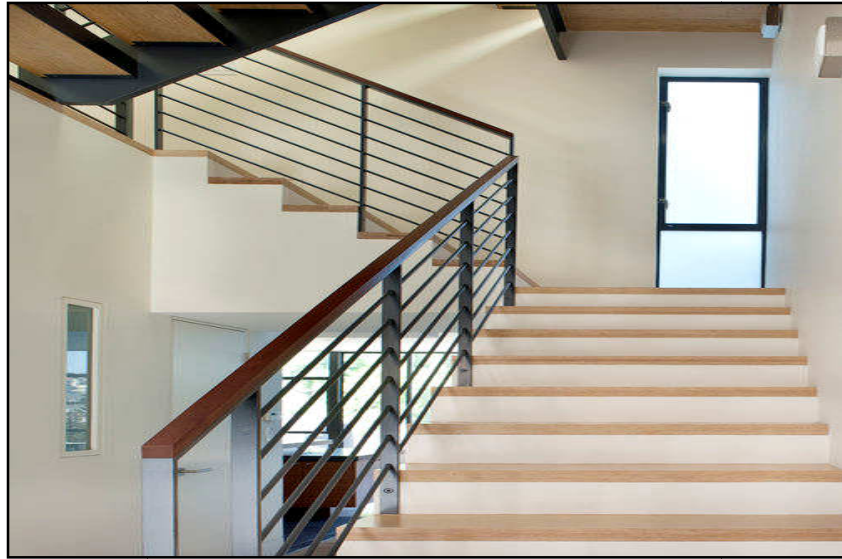


Figure 4.118: Contemporary Igala Staircase Design.  
Source: Field Survey (2017).



Figure 4.119: Contemporary Igala Exterior Building Finish.  
Source: Field Survey (2017).

Contemporary Igala residential buildings which are mostly secured in perimeter fences with steel gates are often landscaped with paved walkways and car parking areas. Flowers and plants are also used for beautification (See Fig. 4.120). Sometimes the buildings are constructed simultaneously with ancillary facilities. These facilities usually include gate/security house, paved parking area, suspended

water tanks, boys' quarter and sometimes swimming pool depending on the taste and financial status of the clients/owners.



Fig 4.120: Contemporary Igala Perimeter Fence.  
Source: Field Survey (2017).

Before the building is occupied and put to use, it is tested for possible faults with the plumbing works and electrical fittings. The building is said to be completed in the absence of any faults.

#### ***4.5.4.2 Contemporary Igala Building Materials***

In the contemporary era, the following building materials were identified to be used in house construction among the Igala speaking people of Nigeria.

1. Foundations are constructed using stone aggregates, sand/laterite, cement and Iron rods
2. Floors are also constructed with stone aggregates, sand/laterite, cement and polythene.
3. For structural frames and walls, the following materials are used: hollow sandcrete blocks, stone aggregates, sand, cement, iron rods, aluminium, glass and timber.

4. The roofing materials in use are timber, aluminium sheets, stone coated roof tiles, rubber/ polycarbonate materials and steel
5. The ceiling materials in use include timber, asbestos sheets, poly vinyl chloride sheet (PVC) and Plaster of Paris (POP)
6. Doors and windows are made up of aluminium, glass, steel and timber
7. Electrical fittings are mainly timber poles, concrete poles, copper wire, LEED lamps, ceiling fans, air conditioners, cooker, heaters, closed circuit television (CCTV) and electronics
8. Mechanical fittings used are from ceramic, steel, rubber/PVC and aluminium
9. Finishing materials are cement, sand, wood panelling, ceramic/marble tiles, stone and paint

#### **4.6 Presentation and Analysis of Data for the Questionnaire**

To further gain insight into the nature of transformation that has taken place in the Igala traditional architecture and factors responsible for this, a questionnaire survey of adult residents in the nine Local Government Areas selected for the research was carried out. Of the one thousand (1000) copies of the questionnaire administered to the respondents, eight hundred and forty (840) copies which represent 84% were filled and returned, forty-eight (48) copies which represent 4.8% were returned unfilled, seventy-five (75) copies which represent 7.5% could not be retrieved and thirty-seven (37) copies which represent 3.7% were rendered invalid. The invalidation arose from respondents that answered questions on topics they were not conversant with, those that chose more than one options for answers than required for a question, and the respondents that did not answer reasonable number of questions.

Therefore, the eight hundred and forty (840) copies of questionnaire that were retrieved were filled by those conversant with Igala culture and tradition, Igala traditional residential buildings, Igala traditional building technology and materials, and Igala traditional house form and its transformation. The respondents included both gender. Of the eight hundred and forty (840) respondents that filled out and returned copies of the questionnaire, four hundred and fifty (450) respondents which represent 53.57% were males, while three hundred and ninety (390) respondents which represent 46.43% were females.

The copies of the questionnaire were distributed to respondents who are at least sixty (50) years old and above, and have lived in their various communities for a minimum of 25 years. This helped to provide valid information for the study. Responses from both the male and female respondents that were sampled did not show much disparity, signifying that they share common knowledge of their communities. Of the eight hundred and forty (840) respondents that filled and returned copies of the questionnaire, three hundred and ninety-four (394) respondents which represent 46.91% were at the age bracket of (50 years – 60 years), two hundred and eighty (280) respondents which represent 33.33% were at the age bracket of (61 years – 70 years), one hundred and sixty-six (166) respondents which represent 19.76% were of the age bracket of eighty (71) years and above (See Fig. 4.127).



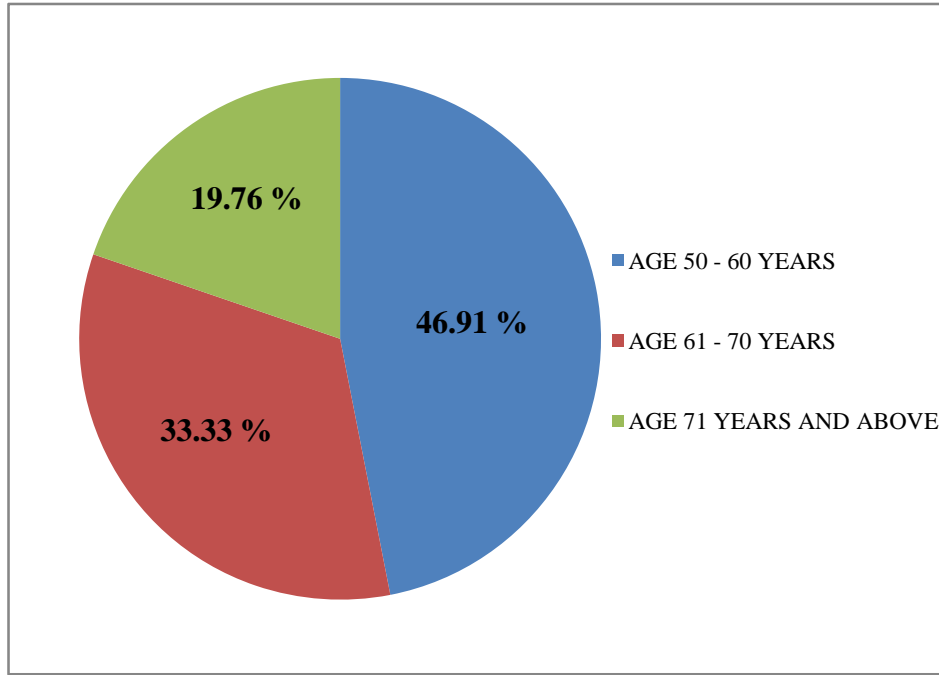


Fig 4.121: Population of Respondents Based on Age in Percentage (%).  
Source: Field Survey (2017).

The results and findings of this research were presented in two sections. The first section was presented in chapter four and covered the findings from literature review and field survey, while the second section that was presented in chapter five covered the results of the analysis of data derived from the questionnaire.

#### ***4.6.1 Compatibility of Igala Traditional Architecture with the People's Culture***

The respondents in the survey were asked to evaluate the compatibility of the Igala traditional architecture with the peoples' way of life and identity. The results in Table 4.1 reveal that a high majority (98.33%) strongly agreed that it was compatible with the peoples' way of life, while only 0.24% disagreed with this. These results show that the Igala traditional architecture is considered to be generally compatible with the way of life (culture) of the people.

Table 4.1: Compatibility of Igala Traditional Architecture with the People's Culture and Architectural Identity.

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Strongly agree	795	94.64
Agree	31	3.69
Not sure	12	1.43
Strongly Disagree	0	0.0
Disagree	2	0.24
<b>Total</b>	<b>840</b>	<b>100</b>

On whether the Igala traditional architecture is worthy of documentation, preservation and application into contemporary architecture in Nigeria, most (97.74%) of the 840 respondents agreed with this, while none of them disagreed with this (Table 4.2). These results mean that those who took part in the survey agree that the Igala traditional architecture has features and values that are worthy of documentation, preservation and incorporation into contemporary architecture in Nigeria.

Table 4.2: Igala Traditional Architecture is Worthy of Documentation, Preservation and Application in Contemporary Nigeria Architecture.

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Strongly agree	750	89.29
Agree	71	8.45
Not sure	19	2.26
Strongly Disagree	0	0.0
Disagree	0	0.0
<b>Total</b>	<b>840</b>	<b>100</b>

#### ***4.6.2 Current Practice of the Igala Traditional Architecture***

One of the questions asked the respondents was for them to indicate the extent to which they agree or disagree with the statement on the practice of the Igala traditional architecture in the contemporary time. The results show that of the (840) respondents who participated in the survey, a significant population (214) of the respondents which represent 25.48% agreed that the Igala traditional architecture

was still being practiced today. However, a high majority (616) of the respondents which represent 73.33% disagreed (Table 4.3). These results suggest that a majority of the participants feel that the Igala traditional architecture is not still being practiced today.

Table 4.3: The Practice of the Igala Traditional Architecture Today.

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Strongly agree	85	10.12
Agree	129	15.36
Not sure	10	1.19
Strongly Disagree	283	33.69
Disagree	333	39.64
<b>Total</b>	<b>840</b>	<b>100</b>

On the reason why the 214 participants believed that the Igala traditional architecture is still practiced today, the results in Table 4.4 reveal that a high majority (151) of the respondents representing around 70.56% attributed this to culture as the main reason for the continued practice of the Igala traditional architecture today, while 35 (16.36%) opined that it was due to economic factors. It can be inferred from these results that culture is the main sustaining factor of the Igala traditional architecture till date.

Table 4.4: The Reason for the practice of the Igala Traditional Architecture till date.

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Culture	151	70.56
Climatic influence	8	3.74
Economic influence	35	16.36
Social influence	0	0.00
Availability of technology/materials	20	9.34
<b>Total</b>	<b>214</b>	<b>100</b>

The respondents in the survey were also asked to indicate the extent they agree or disagree that the Igala traditional residential building process is still being practiced

today. The results show that a majority (72.74%) of them disagreed that this was still in practice today, while 27.26% agreed that it was still in practice today (Table 4.5). These results suggest that the Igala traditional residential building process is not still being practiced today in the study area.

Table 4.5: The Practice of the Igala Traditional Residential Building Today.

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Strongly agree	65	7.74
Agree	164	19.52
Not sure	0	0.00
Strongly Disagree	503	59.88
Disagree	108	12.86
<b>Total</b>	<b>840</b>	<b>100</b>

On the reasons why the Igala traditional residential building process is still being practiced today, around 65.50% of the 229 respondents who indicated that the Igala traditional residential building process is still being practiced today identified culture as the main reason for this. This is followed by 22.71% who attributed this to the availability of traditional building technology and materials (Table 4.6). This result goes to suggest that culture and the availability of traditional building technology and materials are the two main factors responsible for the practice of Igala traditional residential building till date.

Table 4.6: The Reason that the Igala Traditional Residential Building is Still Practiced Today.

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Culture	150	65.50
Climatic influence	15	6.55
Economic influence	12	5.24
Social influence	0	0.0
Availability of technology/materials	52	22.71
<b>Total</b>	<b>229</b>	<b>100</b>

#### 4.6.3 *Original Pattern of Space arrangement in the Igala Traditional Architecture*

Table 4.7 shows the results of the respondents' view on the original pattern of space arrangement in the Igala traditional architecture. It is evident that nearly all (99.4%) of all the 840 respondents indicated that it was the circular curvilinear pattern, while negligible proportions (0.36% and 0.24%) indicated that it was rectilinear and single house patterns, respectively. These results suggest that the circular curvilinear pattern is the original pattern of space arrangement in the Igala traditional architecture.

Table 4.7: Original Pattern of the Igala Traditional Architecture.

Response	Frequency	Percentage
Rectilinear	3	0.36
Circular curvilinear	835	99.40
Single unit house	2	0.24
<b>Total</b>	<b>840</b>	<b>100</b>

Regarding the reason for the practice of circular curvilinear pattern of space arrangement in the Igala traditional architecture, the results show that a high majority (95.21%) of the 835 respondents attributed this to culture, 2.75% suggested that it was due to the availability of technology /materials (Table 4.8).

Table 4.8: The Reason for the Practice of the Circular Curvilinear Pattern of Space Arrangement.

Response	Frequency	Percentage
Culture	795	95.21
Climatic influence	17	2.04
Economic influence	0	0.0
Social influence	0	0.0
Availability of technology/materials	23	2.75
<b>Total</b>	<b>835</b>	<b>100</b>

#### **4.6.4 Pattern of Space Arrangement in the Igala Traditional Architecture (1800-2017)**

Table 4.9 shows the result of the participants' views on the common pattern of space arrangement in the Igala traditional architecture between 1800 and 1860. Examination of the results reveal that most (97.86%) of the participants identified the circular curvilinear pattern of space arrangement followed by a small percentage (1.78%) who indicated that it was single unit house pattern. These results generally show that the circular curvilinear pattern was the common pattern of space arrangement in the Igala pre-colonial architecture.

Table 4.9: Common Pattern of Space Arrangement in the Igala Traditional Architecture in the Pre-colonial Period.

Response	Frequency	Percentage
Rectilinear	3	0.36
Circular curvilinear	822	97.86
Single unit house	15	1.78
<b>Total</b>	<b>840</b>	<b>100</b>

On the common pattern of space arrangement in the Igala traditional architecture in the colonial era (1860-1960), the results show that a majority (76.43%) of the participants were of the view that the common pattern of space arrangement in the Igala traditional architecture during the colonial era was rectilinear, followed by 19.64% who indicated that it was circular curvilinear (Table 4.10). These results suggest that during the colonial era the common pattern of space arrangement in the Igala traditional architecture was rectilinear form.

Table 4.10: Pattern of Space Arrangement in the Igala Colonial Architecture (1860-1960).

Response	Frequency	Percentage
Rectilinear	642	76.43
Circular curvilinear	165	19.64
Single unit house	33	3.93
<b>Total</b>	<b>840</b>	<b>100</b>

During the post-colonial era (1960-1975), a majority (95.83%) of the respondent identified single unit house as the predominant pattern of space arrangement in the Igala traditional architecture (Table 4.11), while only 3.57% indicated that the rectilinear pattern of space arrangement was very common during this period in the study area. Based on these results, it can be inferred that the single unit house was the predominant pattern of space arrangement in the Igala traditional architecture during the post-colonial era.

Table 4.11: The Pattern of the Igala Architecture in the Post-colonial era (1960 – 1975).

Response	Frequency	Percentage
Rectilinear	30	3.57
Circular curvilinear	5	0.60
Single unit house	805	95.83
<b>Total</b>	<b>840</b>	<b>100</b>

The predominant pattern of space arrangement in the Igala traditional architecture during the contemporary era (1975-2017) was also investigated in this research. The results show that nearly all (98.33%) of the 840 participants in the survey identified single unit house as the predominant pattern of space arrangement in the Igala traditional architecture in the contemporary era (Table 4.12), while a very small proportion (1.67%) identified the rectilinear pattern. Based on the results in Table 4.12, it can be inferred that the single unit house was the common pattern of space arrangement in the Igala traditional architecture in the contemporary time.

Table 4.12: The Pattern of the Igala Contemporary Architecture (1975 -2017).

Response	Frequency	Percentage
Rectilinear	14	1.67
Circular curvilinear	0	0.0
Single unit house	826	98.33
<b>Total</b>	<b>840</b>	<b>100</b>

#### ***4.6.5 Factors Responsible for the Transformation in the Igala Traditional Architecture (1800-2017)***

The respondents were also asked to indicate their level of agreement or disagreement on the transformation in the Igala traditional architecture between 1800 and 2017. The results show that a high majority (99 .29%) were in agreement that transformation has taken place in the Igala traditional architecture between 1800 and 2017 (Table 4.13). These results confirm that transformation has indeed taken place in the Igala traditional architecture within the period under review.

Table 4.13: The Transformation of the Igala Traditional Architecture since the Pre-colonial Period.

Response	Frequency	Percentage
Strongly agree	797	94.89
Agree	37	4.40
Not sure	0	0.0
Strongly Disagree	0	0.0
Disagree	6	0.71
<b>Total</b>	<b>840</b>	<b>100</b>

On the reasons behind this transformation, the results also show that a high majority (81.77%) of the 834 respondents that agreed that transformation has taken place attributed this to European influence, followed by 10.31% who attributed the transformation to economic influence, while 5.04% attributed it to cultural influence, and 2.88% indicated that social influence was the main reason for the transformation in the Igala traditional architecture between 1800 and 2017 (Table 4.14). These



results suggest that European influence is the main reason for the observed transformation in the Igala traditional architecture.

Table 4.14: The Reason for the Transformation of the Igala Traditional Architecture.

Response	Frequency	Percentage
Culture	42	5.04
Climatic influence	0	0.0
Economic	86	10.31
influence	24	2.88
Social influence	682	81.77
European influence		
<b>Total</b>	<b>834</b>	<b>100</b>

The respondents were asked to indicate the reasons the Igala traditional architecture was no longer practiced today. The results show that a majority (51.94%) of the 616 respondents who disagreed that the Igala traditional architecture was still practiced today identified European influence as the principal reason the Igala traditional architecture was no longer in practice today (Table 4.15). The second factor identified by 19.97% of the respondents was economic influence. The third factor stated by 14.94% of the respondents was social influence. 14.29% of the respondents identified cultural factor, while the least was climatic factor which was identified by only 2.11% of the 616 respondents. It can be inferred from Table 4.15 that European influence is the main reason why the Igala traditional architecture is no longer in practice today.

Table 4.15: The Reason the Igala Traditional Architecture is No Longer Practiced Today.

Response	Frequency	Percentage
Culture	88	14.29
Climatic influence	13	2.11
Economic	123	19.97
influence	72	11.69
Social influence	320	51.94
European influence		
<b>Total</b>	<b>616</b>	<b>100</b>

## CHAPTER FIVE

### DISCUSSION OF FINDINGS

#### 5.1 The Intrinsic Features of the Igala Traditional Architecture

In addressing objectives 1 of the study, the findings from the field survey and the results in Tables 4.7 and 4.9 of the questionnaire data analysis revealed that the Igala people practiced the circular curvilinear house form in the pre-colonial period before the advent of modernization by European influence. The plan of the huts was circular and the walls were constructed with mud. The roofs were thatched with grass and covered a framework of wooden supports. Sometimes the walls were made of wattle and daub. The roof shape was conical. The buildings were free standing and usually enclosed a courtyard which housed a reception hut locally known as *Atakpa*. The circular curvilinear house form represented the people's architectural identity and was compatible with their climate, religion and socio-economic lifestyle. The circular curvilinear house form was suitable with the people's communal lifestyle; it was also a spiritual symbol for the Igala people because it was inseparable from their religion. This is in consonance with the view of Denyer (1978) that the traditional house form of any place or group of people is an architectural representative of such group. It conveys the message of the cultural heritage and identity of the people, suitable for their climate and compatible with their socio-economic life style. Key intrinsic features of the Igala traditional architecture include cultural hierarchy of living space; presence of privacy and security through the provision of fence and the strategic location of the hut of the head (husband) of the compound and the separation of public spaces from private spaces; compound setting shows communal living thereby encouraging communal association and unity; presence of shrine for religious activities; presence of reception hut which was the centre of socio-cultural

activities; presence of several huts for the man's wives which is a reflection of Igala culture of polygamy and creation of human resources for socio-economic activities through multiple child-bearing; and the use of traditional/natural building materials which are sustainable and regulate room temperature.

## **5.2 Values of the Igala Traditional Architecture**

The Igala traditional architecture was significant, unique and peculiar to the people. The pattern and arrangement of the Igala traditional house form was common only to the Igala people.

As revealed by the literature review and field survey of the study, the values of the Igala traditional architecture can be seen in the following characteristics of their house form, building materials and construction technique: (i) The Igala traditional architecture was efficiently functional and compatible with Igala culture; Igala traditional religion; Igala socio-cultural and socio-economic lifestyle. It was also sustainable and suitable for the environment and climate of the Igala people. (ii) It was integrated into the Igala socio-spatial and village setting, and creates a cultural and traditional core which was a replica of the courtyard in the Igala traditional house form, thereby establishing cultural identity. (iii) It was patterned along traditional principle of zoning which was socio-culturally and socio-economically functional, and establishing cultural hierarchy. (iv) The Igala traditional architecture allowed for organic growth of the compound, creating the possibility of expansion, thereby establishing communalism and unity. (v) It took cognisance of the agricultural activities of the people by the incorporation of food barn, animals' pen and garden. (vi) It also took cognizance of the people's cultural practice of polygamy which boosted the people's economic status through adequate manpower. (vii) The

Igala traditional building materials are sustainable, reusable, available, affordable, ozone friendly, biodegradable, and also produced buildings that depicted the people's architectural identity. (viii) The security fence provided privacy and security, and the reception hut was the centre for crafts work and socio-cultural activities and relaxation. The values of the Igala traditional architecture as stated above are consistent with the opinion of Sa'ad and Ogunsisi (1996) who opined that house forms are a reflection of the cultural heritage of a people handed down from generation to generation, and which have been empirically resolved communally to serve their needs. This view also in consonance with the opinion of Denyer (1978), who opined that the traditional house form of any place or group of people is an architectural representative of such group. It conveys the message of the cultural heritage and identity of the people, suitable for their climate and compatible with their socio-economic life style.

### **5.3 The Nature of Transformation in the Igala Traditional Architecture (1800-2017)**

In response to objective 3 of the study, the field survey and the results in Tables 4.13 of the questionnaire data analysis revealed that the Igala traditional architecture has transformed from the pre-colonial circular curvilinear house form into modern architectural designs/forms since the pre-colonial period. The transformation however, started in the colonial period as a result of colonialism. The results in Table 4.10 of the questionnaire data analysis showed that the rectilinear house form was the common pattern of the Igala traditional architecture in the colonial period (1860 – 1960). The Igala colonial rectilinear house form maintained the same arrangement and functional spaces as the Igala circular curvilinear house form, but the basic shape

was a square or rectangular plan. Walls were constructed with mud bricks or puddled mud, and roofs were of galvanized iron.

It is evident from the results in Tables 4.11 of the questionnaire data analysis that the single unit house was the common pattern of the post-colonial (1960 – 1975) Igala architecture. And according to the results in Table 4.12 of the questionnaire analysis, the single unit house was also the common pattern of the Igala contemporary (1975-2017) architecture. In the post-colonial and contemporary Igala single unit house design, family members and spaces were accommodated in a single building which were either bungalows or storey buildings. The buildings were designed to accommodate the following major functions: living room, dining room, master bedroom, madam's bedroom, female children's bedroom, male children's bedroom, kitchen, storage, water closets and baths. Sometimes, other spaces such as laundry room and guest room were incorporated. The findings of this study is in consonance with the assertion of Gardi (1973) that culture is dynamic, as such it follows that architecture in response to man's ever changing socio-economic and cultural situation is dynamic as well, hence the transformation from traditional architecture to contemporary architecture

#### **5.4 Factors Responsible for the Transformation in the Igala Traditional Architecture between 1800 and 2017**

In response to objective 4, from the findings from literature review and field survey, and also from the results in Tables 4.14 and 4.15 of the questionnaire data analysis, it is evident that the colonization of Nigeria and other activities of European influence in the country dealt a heavy blow to the cultural and architectural identities of the Igala people. The introduction of individualism and the consequent removal of the

people's age-long practice of communalism especially as a result of the influence of foreign religions was some of the major changes that affected the Igala cultural and architectural identities. Religion was a subtle way of achieving peace in the territory so that the colonial masters could carry on their trade business, consequently, the polygamous African family was weakened and broken down, by religion, to be replaced by single/nuclear family structure thereby disintegrating large traditional compounds and affecting traditional architecture. Other activities of the Europeans that led to the transformation of the Igala traditional architecture to foreign/modern building designs/forms include slave trade; colonial administrative policies; the introduction of western building designs; the introduction of western building materials and construction techniques; and the introduction of western religion and culture. The study further revealed that the Igala cultural and architectural identities have been neglected in the design and production of contemporary Igala residential buildings, particularly in terms of the courtyard and zoning concepts. This signifies that the traditional Igala architecture is gradually becoming extinct.

These findings are consistent with evidence in the literature (Rikko & Gwatau, 2011) suggesting that urbanization, collision of cultural values, relics of the colonial experience and exposure to western education have all made what is imported from other cultures part of what is now passed down from one generation to another. They also seem to provide support to the assertion by Odum (2013) that most people in developing countries admire and embrace new alien ideas, materials and technologies, and indeed have developed unprecedented preference and excessive reliance on them, as they are often used to create the type of architecture they consider symbol of progress. These help to explain the disappearance of the

traditional house form in Igala urban centres and also open space architecture and settlement pattern, all of which has disappeared.

With respect to the factors of transformation of the Igala traditional architecture, the findings in this research are consistent with the views of Nduka (2013) who asserted that the abolition of slave trade in the 17<sup>th</sup> century brought to Nigeria a style of architecture referred to as ‘Brazilian Architecture’ in the South West zone. Slaves that were repatriated from South (Latin) America after the abolition introduced the Brazilian style of architecture in Lagos, Nigeria. According to Sa’ad (1996), these houses contain some formal and symbolic characteristics acquired as a result of complete cultural synthesis. Also on the European influence on traditional architecture in Nigeria, Osasona (2006) opined that, to underpin their administration, the British colonialists needed various institutional and physical infrastructures such as; warehouses, banks, schools, hospitals, residences to mention a few, and were built. These were serviced by rail, roads, bridges, piped water, electricity and other social amenities. The architectural forms, completely different from what was on ground, were variously expressed as timber-framed buildings, masonry structures (employing either fired brick or stone), or composite construction thereby influencing existing traditional building styles. In addition, Osasona (2007) asserted that, of necessity, building materials were imported from Britain. These materials consist of cement, slate roofing tiles, corrugated iron roofing sheets, processed timber and synthetic paints, among others. Local unskilled labour was harnessed to expatriate expertise, to effect these building materials. The resultant acquisition of building skills, coupled with readily-available prototypes to copy from, gradually produced a crop of local interpretations of the colonial building design particularly with respect to residences. In effect, traditional building practices became “refined”

by more durable building materials and techniques, and more “sophisticated” formal expressions. Furthermore, Chuta (1992) stated that the introduction of Christianity and Islam in Africa marked the beginning of religious pluralism on the continent, thus putting to an end the monolatrous religious system that operated in the traditional African societies. Most of the people, for varying reasons, opted for the new religions without necessarily understanding the implications of their new choice.

The factors of transformation may differ among the traditional architecture of different ethnic groups as observed by Umar (2017) who revealed that the Hausa traditional architecture has witnessed transformation in geometric shape, and form, planning concept, building materials and construction methods attributed to socio-economic factors of income, inheritance, western education, marriage, and development of new materials.

Based on the findings from literature review, it is evident that culture has a strong positive significant influence on the evolution of traditional architecture. Traditional architecture is basically a product of culture. Even though other factors such as climate and building materials directly influenced people’s traditional building practice, culture remained the major determinant factor of traditional architecture. This phenomenon is in consonance with the views of Ettahad, Azeri and Kari (2014) who asserted that every society has its own culture, upon which its foundation of architecture was established, and its architecture is the objective image of its culture. And also that architecture was and is a true measure of a nation’s culture, and the culture of a community is responsible for the ways spaces get formed. This also conforms to the opinion of Olutuah (1997) that the culture of a people exercises an over-riding influence on the type and form of the house evolved by the people. Gardi



(1973) also opined that housing is shaped by the culture of a people, alongside their needs and technical possibilities open to them. The Igala traditional architecture is not an exception. The arrangement of the Igala traditional house form, the forms and functions of individual spaces, were largely determined by Igala culture. The findings from the field survey and the results in Tables 4.8 of the questionnaire data analysis showed that Igala culture was pivotal to the evolution of the intrinsic features and values of the Igala traditional architecture.

## **CHAPTER SIX**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **6.1 Overview of the Research**

This study was on the evaluation of the Igala traditional architecture from 1800 to 2017. The focus was to identify, document and describe the intrinsic features and values of the Igala tradition architecture as well as identify the nature of transformation it has experienced and the drivers of the transformation. The study was premised on the paucity of empirical research of the Igala traditional architecture and the lack of understanding of the specific features that can be preserved and incorporated into contemporary architecture in Nigeria. To achieve this goal, the following research objectives guided the study:

1. To identify, document and describe the intrinsic features of the Igala traditional architecture.
2. To examine the values that can be derived from the Igala traditional architecture.
3. To determine the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017.
4. To examine the factors responsible for the transformation in the Igala traditional architecture in the period under review.

Similarly, the following research questions were stated and answered in this study

1. What are the identifiable intrinsic features of the Igala traditional Architecture?
2. What are the values that can be derived from the Igala traditional Architecture?

3. What is the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017?
4. What are the factors responsible for the transformation of the Igala traditional Architecture in the period under review?

Based on these research objectives and questions, relevant and current literature were identified and reviewed to provide a sound conceptual and theoretical foundation for the research. In line with these research objective and questions, a combination of historical and survey research designs was used for the research and data were collected using observation schedule, photographic materials, documentary analysis and questionnaire. The data were subject to content and descriptive analyses and the results presented using tables, charts, photographs, sketches and drawings.

## **6.2 Summary of the Key Findings**

This section summarizes the main research findings of the study based on the research questions. The study sought to provide answers to the research questions through the following;

1. With respect to research question 1, the identified intrinsic features of the Igala traditional architecture include open court yard system; proper cultural space zoning; compound setting shows communal living; presence of shrine for religious activities; impluvium and food storage facility; several huts for the man's wives which is a reflection of Igala culture of polygamy; perimeter fence; reception hut. And the presence of garden, food barn and animals' pen for agricultural activities.
2. In response to research question 2, the values of the Igala traditional architecture identified by the study include: (i) Environmental sustainability of Igala traditional building materials and construction technique. (ii) Reusability of building materials. (iii) Ease of maintenance (iv) Igala building materials are available,

affordable and biodegradable (v) Organic growth of the compound, creating the possibility of expansion thereby establishing communalism and unity. (vi) Incorporation of spaces and facilities for socio-economic activities such as farming. (vii) Presence of many huts to accommodate wives and children thereby providing adequate workforce for farm labour. (viii) Presence of cultural hierarchy of space and cultural identity. (ix) Water conservation through the presence of impluvium. (x) The open courtyard serves as children playground and creates natural air circulation and efficient ventilation. (xi) Provision of security and privacy by the general pattern of house form and the strategic location of the husband's hut.

3. In response to research question 3, the study identified the nature/phases of transformation of the Igala traditional architecture, and have been listed in the study as architectural movements. First is the colonial movement, which covers the period between 1860 and 1960 and saw the emergence of the rectilinear house form. The second is the post-colonial movement which spanned between 1960 and 1975 and saw the emergence of the single unit house. During this period family members and building spaces were accommodated in a large single building. Third is the contemporary movement. This period covers between 1975 to the time this research was carried out in 2017. The single unit house was also the pattern of the Igala contemporary building design.

4. In addressing research question 4, the study revealed the activities of the Europeans that led to the transformation of the Igala traditional architecture to foreign/modern building designs/forms. They include; slave trade; colonial administrative policies; introduction of western building designs; introduction of western building materials and construction techniques; and introduction of western religion and culture.

### **6.3 Contribution to Knowledge**

This research dwelt on the evaluation of the Igala traditional architecture between 1800 and 2017. It makes contribution to knowledge in the following ways.

1. The study has identified, documented and described the intrinsic features of the Igala traditional architecture
2. It has also revealed the nature of transformation that has taken place in the Igala traditional architecture between 1800 and 2017.
3. The study also uncovered the specific factors responsible for the transformation in the Igala traditional architecture in the period under review.
4. The study has improved understanding of the intrinsic values of the Igala traditional architecture that can be applied to the contemporary architecture in Nigeria.

### **6.4 Conclusions**

The pattern, arrangement and form of the Igala traditional architecture presented basic features and values that were efficient, functional and sustainable. The courtyard system that serves as play ground for children and creates natural air circulation and ventilation, the security strategy, cultural zoning concept, cultural hierarchy, cultural identity, communalism, possibility of organic expansion, water conservation, integration of socio-economic and socio-cultural spaces and facilities to mention these few, are some of the intrinsic features and values of the Igala traditional architecture that can be incorporated into contemporary architecture.

This study discovered that the influence of European policies and activities significantly transformed the scenario in Igala architecture. The peoples' architecture changed from the multiple and communal pattern of housing that accommodated

extended family single unit system of individual apartments. The transformational phases of the Igala traditional architecture include rectilinear house form in the colonial period, and the single unit house in the post-colonial and contemporary periods. Igala cultural and architectural identities have been neglected in the design and production of contemporary Igala residential buildings, particularly in terms of the courtyard and zoning concepts. This study believes that it is important to establish efforts to revive the traditional/indigenous architectural forms of the Igala people which have gradually become extinct, and develop new but acceptable architectural styles that are compatible with the culture of the people that will be socially, economically, culturally and environmentally friendly and acceptable and at the same time harmonizing with the existing infrastructures.

The rate our past is being eroded so alarmed Igbo (1995) that he opined that it is terribly disturbing the rate at which we destroy records of our past out of ignorance and thoughtlessness, but more often, out of greed, self-centurions and power-drunkenness. The above observation has further expanded the issue for better understanding of our inadequacies. There is a popular saying that “who is afraid to die is definitely afraid to live”. Anyone who does not want to know his past and associate with it will not be sure of his future. The word ‘indigenous’ does not make any impact on our youths today because of the foreign culture that has been very much promoted in the country. Therefore, there is the need for us to begin to promote our indigenous architecture by carrying out more research work to convince the citizenry of its importance and relevance to our common cultural background.

## **6.5 Implications and Recommendations of the Study**

Evidence from the sample of compounds and buildings surveyed showed that there is a growing preference of modern architectural designs/forms over traditional architecture because of the admiration and acceptance of new alien ideas, materials and construction techniques as established by Odum (2013) who opined that most people in developing countries admire and embrace new alien ideas, materials and technologies, and indeed have developed unprecedented preference and excessive reliance on them, as they are often used to create the type of architecture they consider symbol of progress. This phenomenon has gradually destroyed the cultural heritage and identity of the Igala people, with their traditional architecture gradually becoming extinct.

The consequential loss of open spaces of courtyard systems in the present contemporary Igala residential houses have a significant negative effect on the Igala socio-cultural (household) family activities and cultural principle of communalism, unity and the organic growth pattern of the Igala traditional house form as well as efficient air circulation and ventilation. The family organization with its close link between members of the extended family is deeply rooted in African tradition and is rarely reflected in the design of contemporary compound.

Contemporary Igala building designs and materials are not suitable for the climate of the Igala people, and the sophisticated construction technology is not affordable. For instance, Igala traditional building materials and technology were suitable for the climate of the region and provided natural regulation for room temperature. Heat ventilation and cooling (HVAC) systems were not needed. This phenomenon is in consonance with Uzuegbunam *et al.* (2018) who emphasized that the adoption of modern building designs has contributed immensely to the production of specific

brand of building forms that do not factor in necessary environmental considerations, rather, the resultant architecture is often compact airtight residential buildings that tend to rely heavily on exorbitant mechanical devices for conducive indoor environment.

Religious pluralism in Africa and particularly Nigeria, and the wide acceptance, facilitated by the Europeans, gradually eliminated the shrines from the Igala traditional architecture. Presently, the Igala man is disconnected from his traditional religion and ancestors, he is left at the mercy of foreign religions that he continues to doubt their potency. The deity was the mediator between him and his ancestors. He sought and got answers from his ancestors through his deity, and he sought and got protection from diseases and enemies through his deity. The deity was the judge over the affairs of his family. Morality was entrenched by his culture and preserved by his deity.

Contemporary Igala building designs do not incorporate the socio-economic lifestyle of the people. The Igala people are predominantly farmers, as such the Igala traditional architecture took into cognisance the socio-economic lifestyle of the people by the incorporation of spaces meant for socio-economic activities. In Igala traditional house form, barns were incorporated for food storage, spaces were provided at the rear of the compound for vegetable farming and animals were reared and kept in pens. All these have been removed from the contemporary Igala houses.

Based on the findings and results, the study hereby recommends the following:

1. The features of the Igala traditional architecture that promote security, privacy, communal living, and energy and water conservation as well as environmental protection should be preserved and incorporated into contemporary



architecture in Nigeria to ensure that architecture contributes to sustainable development goals (SDGs),

2. Conscious and determined efforts should be made to stop the refurbishment and destruction of all identified indigenous and traditional architectural monuments or structures and settlements in Igala land and Nigeria in the process of urban re-engineering or expansion. Instead, deliberate effort should be channelled towards preserving and maintaining them. This will checkmate the transformation and gradual extinction of our cultural and architectural heritage.

3. There should be a determined attempt by scholars of architecture to investigate and document the indigenous and traditional architecture of the various ethnic groups in Nigeria as carried out on the Igala ethnic group in this research, so as to encourage the preservation and application of their cultural identity and traditional architecture in contemporary architecture in Nigeria. This will also lead to the development of a common and acceptable Nigerian history of architecture as the country currently has none according to my findings.

4. Scholars in architecture and related disciplines should embark on research in order to establish the historical architectural movements in Nigeria as attempted in this research.

5. There should be a creation of public awareness campaign as to the significance of indigenous and traditional architecture to the development of the economy of Nigeria through tourism.

6. Contemporary buildings in Nigeria should be designed and built to be representatives of the culture, tradition and identity of the Nigerian people. The architectural style, design, and construction materials of contemporary buildings should reflect the cultural heritage of the locality or region that lay claim to them,

and they should be environmentally and culturally sensitive and sustainable over the long term.

7. There is the need to encourage the specialization in the study of traditional architecture in Nigerian schools of architecture. This will not only help in creating jobs, it will also help to sensitize the people to value their identity, culture and tradition as well as their own indigenous architecture.

## **6.6 Limitations of the Study**

Some of the limitations with this study include the following

1. The rigorous process of obtaining permission before people would grant access to their property.
2. The strenuous process of convincing people and allaying their fears so that they can give valid information and data necessary for the project.
3. Poor but possible accessibility to the remote parts of the study area where pre-colonial Igala architecture is prevalent today.

## **6.7 Suggested Areas for Future Research**

The study makes the following recommendations for further research

1. The evaluation of the traditional architecture of other ethnic groups in Nigeria towards establishing a common Nigeria traditional architecture, as the country currently has none.
2. The application of Nigeria traditional/indigenous architecture in contemporary Nigeria Architecture towards the preservation of traditional architecture in Nigeria.

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## APPENDICES

### APPENDIX A: OBSERVATION SCHEDULE

Item	Pre - colonial Igala building	Colonial Igala building	Post-colonial Igala building	Contemporary Igala building
Foundation				
Wall type				
Floor				
Columns				
Beams				
Openings				
Ceiling				
Roof truss				
Roof covering				
Fence				
Finishing				
Electrical fittings				
Mechanical Fittings				

## **APPENDIX B: SAMPLE QUESTIONNAIRE**

UNIVERSITY OF NIGERIA, ENUGU CAMPUS

SCHOOL OF POSTGRADUATE STUDIES

DEPARTMENT OF ARCHITECTURE

### **STUDY QUESTIONNAIRE**

This questionnaire is purely designed for academic research on Igala traditional house form. The research topic is '*Evaluating the Igala Traditional Architecture from 1800 - 2017*'. The author will appreciate direct, specific and clear answers.

Please be as honest as possible. Thank you.

**Please tick the appropriate option or fill in the blank space where necessary**

#### **PART A: DEMOGRAPHIC DATA**

1. What is your gender?

☐ Male

☐ Female

2. How old are you?

☐ Between 60 years – 70 years

☐ Between 71 years – 80years

☐ 80 years and above

#### **PART B: DATA ON THE INFLUENCE OF CULTURE ON THE EVOLUTION AND INTRINSIC FEATURES AND VALUES OF THE TRADITIONAL IGALA ARCHITECTURE IN THE PERIOD UNDER REVIEW.**

3. Is the Igala traditional architecture still practiced today?

☐ Strongly agree

☐ Agree

☐ Not sure

☐ Strongly disagree

☐ Disagree

4. Why is the Igala traditional architecture still practiced today?

☐ Culture

☐ Climatic influence

☐ Economic influence

☐ Social influence

☐ Available technology/materials

5. Is the Igala traditional residential building still practiced today?

☐ Strongly agree

☐ Agree

☐ Not sure

☐ Strongly disagree

☐ Disagree

6. Why is the Igala traditional residential building still practiced today?

☐ Culture

☐ Climatic influence

☐ Economic influence

☐ Social influence

☐ Available technology/materials

7. What was the original pattern of the Igala traditional architecture?

☐ Rectilinear

☐ Circular curvilinear

☐ Single unit housing

8. What influenced the practice of the pattern of architecture as selected in question number 7 above?

- ☐ Culture
- ☐ Climatic influence
- ☐ Economic influence
- ☐ Social influence
- ☐ Available technology/materials

**PART C: DATA ON THE PREDOMINANT PATTERN OF SPATIAL ARRANGEMENT IN THE IGALA TRADITIONAL ARCHITECTURE BETWEEN 1800 AND 2017.**

What was the pattern of the Igala traditional architecture in the pre-colonial period?

- ☐ Rectilinear
- ☐ Circular curvilinear
- ☐ Single unit housing

10. What was the pattern of the Igala colonial architecture (1860 –1960)?

- ☐ Rectilinear
- ☐ Circular curvilinear
- ☐ Single unit housing

11. What was the pattern of the Igala post-colonial architecture (1960 - 1975)?

- ☐ Rectilinear
- ☐ Circular curvilinear
- ☐ Single unit housing

12. What was the pattern of Igala contemporary architecture (1975 - 2017)?

- ☐ Rectilinear
- ☐ Circular curvilinear
- ☐ Single unit housing



**PART D: FACTORS PERCEIVED BY THE PEOPLE TO HAVE INFLUENCED THE TRANSFORMATION OF THE IGALA TRADITIONAL ARCHITECTURE WITHIN THIS PERIOD.**

13. Why is the Igala traditional architecture no longer practiced today?

- ☐ Culture
- ☐ Climatic influence
- ☐ Economic influence
- ☐ Social influence
- ☐ European influence

14. Why is the Igala traditional residential building no longer practiced today?

- ☐ Culture
- ☐ Climatic Influence
- ☐ Economic Influence
- ☐ Social Influence
- ☐ European influence

15. What influenced the practice of the pattern of architecture as selected in question number 10 above?

- ☐ Culture
- ☐ Climatic influence
- ☐ Economic influence
- ☐ Social influence
- ☐ European Influence

16. What influenced the practice of the pattern of architecture as selected in question number 11 above?

- ☐ Culture
- ☐ Climatic influence

☐ Economic influence

☐ Social influence

☐ European Influence

17. What influenced the practice of the pattern of architecture as selected in question number 12 above?

☐ Culture

☐ Climatic influence

☐ Economic influence

☐ Social influence

☐ European Influence

18. Has the Igala traditional architecture transformed since the pre-colonial period?

☐ Strongly agree

☐ Agree

☐ Not sure

☐ Strongly disagree

☐ Disagree

19. What influenced the transformation of the Igala traditional architecture?

☐ Culture

☐ Climatic influence

☐ Economic influence

☐ Social influence

☐ European influence

20. Have the Igala traditional building technology and materials transformed since pre-colonial period?

- ☐ Strongly agree
- ☐ Agree
- ☐ Not sure
- ☐ Strongly disagree
- ☐ Disagree

21. What influenced the transformation of the Igala traditional building technology and materials?

- ☐ Culture
- ☐ Climatic influence
- ☐ Economic influence
- ☐ Social influence
- ☐ European influence

22. Was the impluvium part of some Igala traditional house forms?

- ☐ Strongly agree
- ☐ Agree
- ☐ Not sure
- ☐ Strongly disagree
- ☐ Disagree

23. What influenced the adoption of the impluvium in some Igala traditional house forms?

- ☐ Culture
- ☐ Climatic factors
- ☐ Economic factors
- ☐ Social factors
- ☐ External influence

24. Has modernization transformed Igala traditional architecture to contemporary architecture that is not compatible with, and do not represent the people's culture and architectural identity and consequently making it fast becoming extinct?

- ☐ Strongly agree
- ☐ Agree
- ☐ Not sure
- ☐ Strongly disagree
- ☐ Disagree

25. Is the Igala traditional architecture worthy of documentation, preservation and application in contemporary Nigeria architecture?

- ☐ Strongly agree
- ☐ Agree
- ☐ Not sure
- ☐ Strongly disagree
- ☐ Disagree

26. What do you suggest as a measure for the documentation, preservation and application of Igala traditional architecture in contemporary Nigeria architecture?

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